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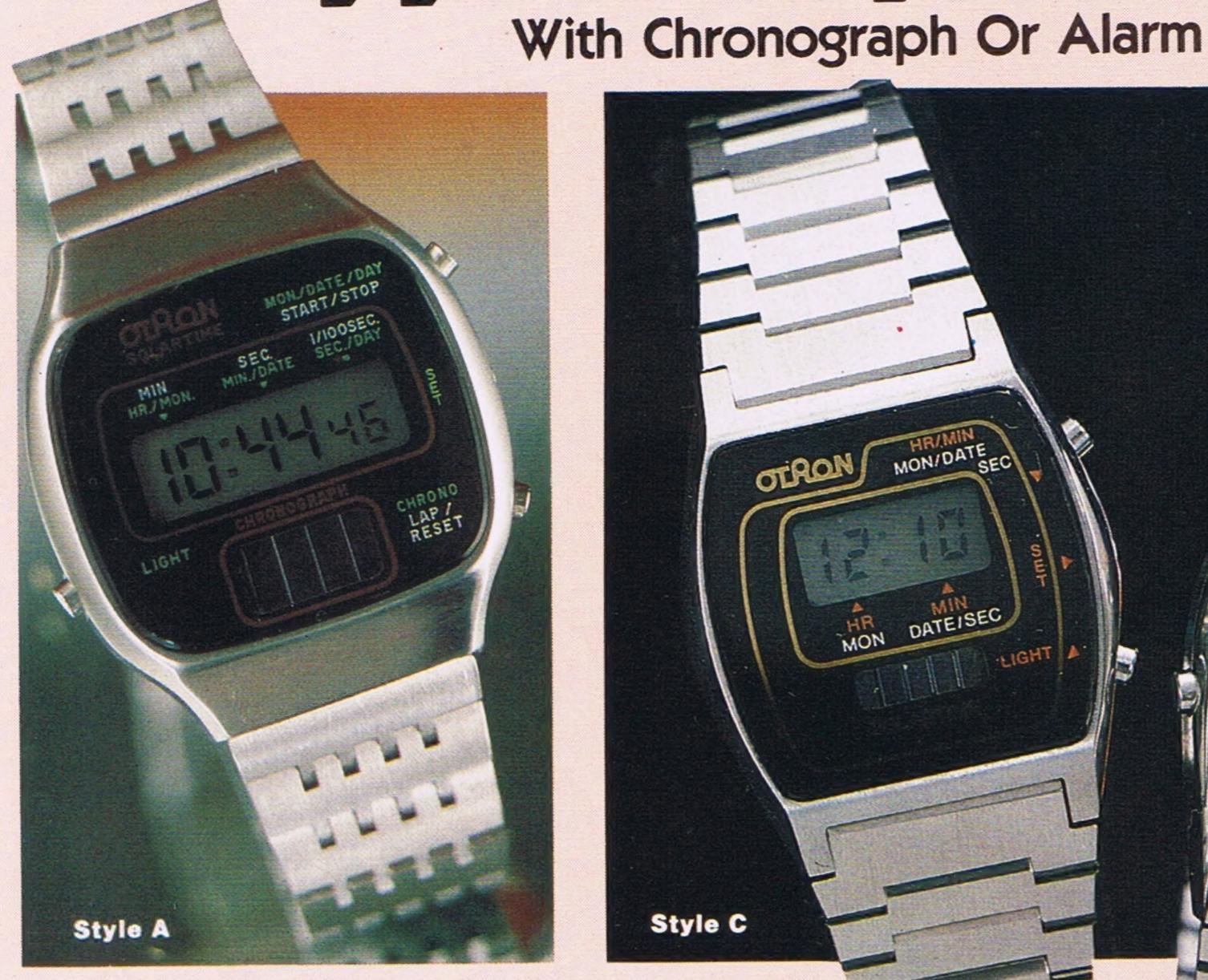
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ABOUT THE CONTENTS PAGE: Artist Jose Cruz graphically illustrates the super-movie's gala premiere. All eyes will be centered on this film (and its box-office gross) during the months ahead. The full story starts on page 40.

FROM THE BRIDGE

his being the start of a new year, it seems appropriate for a science-fiction magazine to gaze into the crystal ball and make a few predictions about the future—specifically, what this next year holds for STARLOG readers.

Some predictions are easy, because plans for the future are being formed right here in our offices. For instance: in addition to STARLOG (going monthly with issue #21), FUTURE LIFE (new title, new design), and SF COLOR POSTER BOOK, two more publications will debut in 1979—FANTASTICA and CINEMAGIC. They will feature subjects that are tremendously popular with our readers but which we never have enough space to cover properly—fantastic creatures and worlds, and how-to-do-it-yourself movie magic.

Both these new magazines are described elsewhere in this issue, but what else is on the horizon? OK, here are some hints: there is a good possibility that in 1979 we will launch publication of a *fiction* magazine (in answer to many requests) and release our *first the-atrical feature motion picture*!

Now, if that doesn't blow your mind, here's more: new STARLOG Photo Guidebooks coming your way feature Special Effects, Robots, Roller Coaster Fever, The Fab 50's, and the First Annual Science Fiction Yearbook. As you can see, we're continuing to specialize in SF, but we're also reaching into other exciting areas in which readers have expressed interest.

We are sponsoring two reader competitions (STARLOG's SF Short Film Search and FUTURE LIFE's Space Shuttle Getaway Special Contest) that will climax during the next few months. Winners from our Chicago Space Art Search will be pictured in an upcoming FUTURE LIFE, and there will be other reader contests during the year to discover creative talents.

With our new Bernard Herrmann soundtrack album, the Space Art Club, our first children's book, *The Boy Who Saved the Stars*, our historic Space Art Guidebook and a multitude of other projects—1979 promises to be our most exciting, productive and dynamic year yet.

On other fronts, there's a flood of major movies on the way—some of which are hard-core SF. This spring will bring the *Buck Rogers* movie, the *Galactica* theatrical film, *Destination Moonbase Alpha, It's Alive 2*, the revised version of *Close Encounters* and *Alien. Meteor* will hit theaters in June, and the rest of the summer will see *The Humanoid, Moonraker* and Disney's *Spaceman in King Arthur's Court*. The Christmas season will sparkle with the long-awaited *Star Trek* movie on the big screen.

Television predictions are a little more "iffy" since a long-running series requires both expert writing and expensive effects, and few SF attempts have succeeded for more than a season. But *The Martian Chronicles* is slated for the fall; the first few installments to be based on the classic Bradbury short stories. If they are popular, the network will attempt to turn it into a series; the scripts will be thrown together and suffer in comparison to the originals, and the program will die within the season.

Looking way over the horizon, 1980 will yield feature movies *The Empire Strikes Back*, Disney's *Black Hole, Superman II* and a fantastic space art calendar from FUTURE LIFE. Adding it all up, 1979 is heavy on the positive side for science-fiction fans. Let me encourage you, as I did last year, to be as choosy and demanding as possible about the SF entertainment you can be persuaded to buy. Every dollar you spend for something *good*, encourages the producers of the field toward higher quality.

Our best wishes to all our readers for a year of outstanding tomorrows.

Hele Com

Kerry O'Quinn/Publisher

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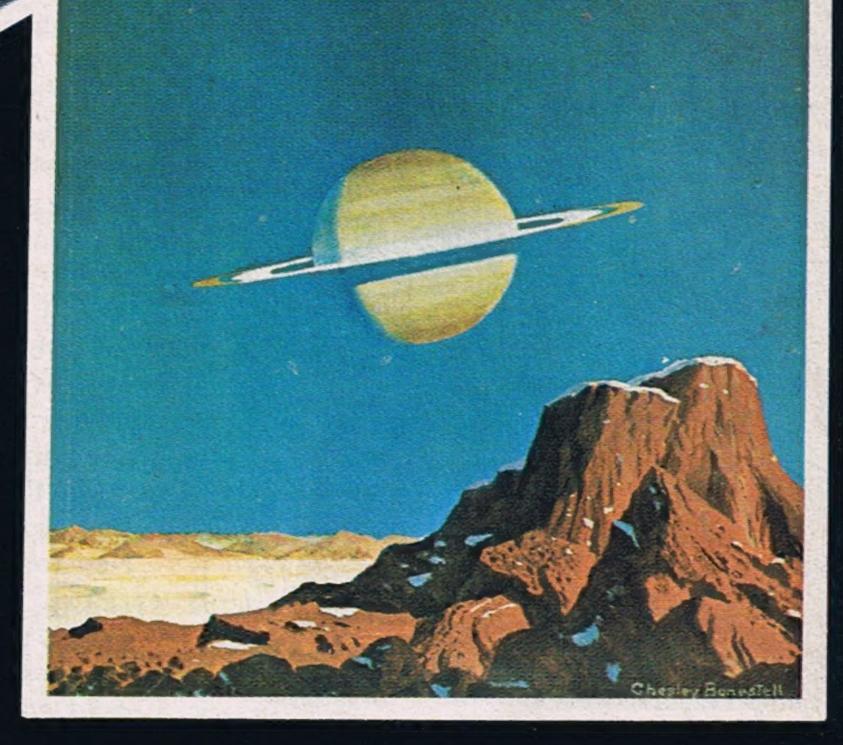
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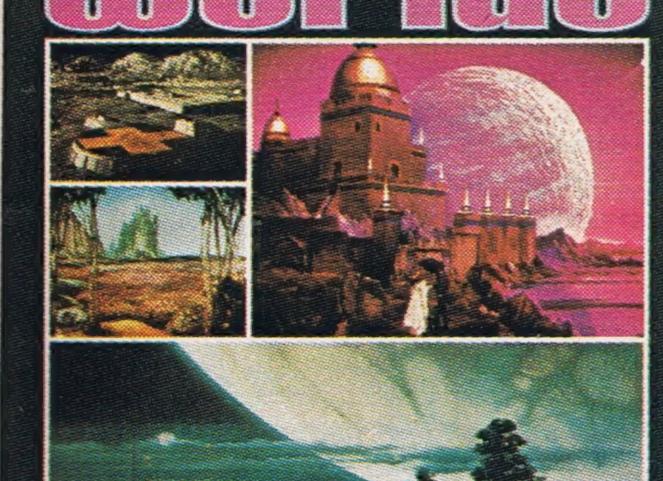


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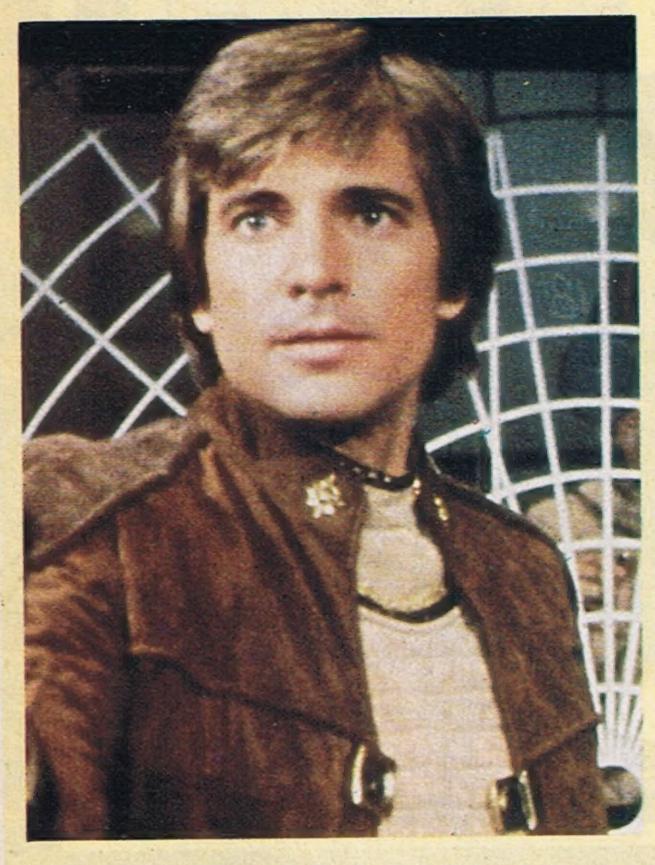
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GALACTICA COMMENTS



for one thing. I'm talking about how they had Boxey and his daggit stowaway aboard the shuttle down on the frozen planet. Instead of keeping him safe and sound with the clones like they did with the wounded, they took him along. That was pretty dumb because, as a parent, Apollo would have had the boy stay behind where he would be safe. In fact, since the whole situation aboard the Battlestar is pretty dangerous, a little boy would always have someone watching him so he wouldn't even have the chance to stowaway in the first place.

Lynn Schwalbe 546 Wilson St. Jersey Shore, PA

Jersey Shore, PA 17740

If that were Galactica's only problem they'd be

well ahead of the game.

... What are the values of the time and distance units used on the *Battlestar Galactica* TV show? (Microns, yarns, hacttars, etc.)

Howard G. Beatman 16 Niles Hill Rd.

New London, CN 06320

Since no on-air-mention has been made, your guess is as good as ours.

... Now that the dust has finally settled on all the hoppla surrounding Battlestar Galactica and audiences have seen the show on a week to week basis, just what have science-fiction fans gotten out of Universal's highly touted series? Very little, I'm afraid! Glen Larson obviously never read a real science-fiction novel in his life. His

storylines appear to be just old western and war scripts updated into the future. And no amount of window dressing (i.e. "daggits," space jargon, weird-looking food or strange monsters) can adequately conceal these time-worn plots.

Jim Wynorski 405 North Madison Ave. #27 Pasadena, CA 91101

... I would like to air my opinions on Battlestar Galactica. First, why does it take three Cylons to fly a fighter? Since they are machines with quicker reflexes, wouldn't just one suffice? Can flame-spitting Vipers exceed light speed? And without artificial gravity and stress compensation mechanisms, wouldn't the pilot be smeared to jelly all over the cockpit from the high speed forces of hyper-light turns? Doesn't the Galactica have any security forces? They must not be very good if a little kid and a daggit can sneak aboard a shuttle going on a dangerous mission. And where does Starbuck get his cigars? Finally, doesn't anyone know the difference between a galaxy and a solar system? More than once I've heard, 'Back in your own galaxy,' or, 'In another galaxy.' I don't know what the Galactica's top speed is, but to cross a galaxy in a few days, or even weeks, calls for some heavy truckin'. One more question: what will happen when the fleet gets to Earth? Will they pass the mothership or be met with the Enterprise?

Eugene Curin Neshkoro, WI 54960

Battlestar Galactica. We want to know if John Colicos, who plays Voltar, also played the Klingon Kor in the Star Trek episode, "Errand of Mercy." I say that he did and my friend says that he didn't.

Jeffrey D. Purkey Gastonia, NE 28052

You win, your friend loses.

... Does Jonathan Harris, "Dr. Smith" of Lost in Space, do Lucifer's voice on Battlestar Galactica?

Jean Frame Glenmore, PA 19343

Yes.

HALLOWEEN OR STAR WARS?

Halloween" was fantastic to say the least. Not only did the article show the love Bob Burns has for the genre, but also his concern for the kids around his block. One thing: isn't the creature shown on page 51 and your cover from the Star Wars "Cantina" scene?

Oscar Benjamin Castro Valley, CA 94546

Rick Baker compliments reader Benjamin on his sharp eyes and says, "The mask was originally designed for a film entitled Trick or Treat. The film was never made." In 1974, the mask made an appearance in "The Thing in the Attic," with Rick Baker playing "The Thing" for the Bob Burns Halloween show. "The body suit was

SF SHORT FILM SEARCH

...My friend and I are making a successful SF movie and hope to have it completed in June or July. I missed your article on "How to Roll Your Own" (STARLOG #10) and wonder if you could send me a copy of that article so we can make the movie all the better.

Doug Barnes
Box 405
Kingston, Nova Scotia
Canada

Back issues (including #10) may be ordered by using the form on page 11, As well, STARLOG and FUTURE magazines are sponsoring the first annual SF Short Film Search, open to all filmmakers, whatever their experience and budget. For detailed rules, fees, releases and entry forms please write today: Dave Ellis, SFSFS, 4221 White Avenue, Baltimore, MD 21206. You and your film can win cash prizes while you gain professional status and recognition. Hurry!

PAL'S PALS

...I am writing to say how pleased I am with your marvelous publication. In my view, and I'm sure in the opinion of millions of others, you are the greatest hope that science fiction holds—securely. In issue #10 you mentioned George Pal's new production, *Voyage of the Berg*. Could you please re-mention it? I am also requesting an American boy or girl for a pen pal. I am deeply interested in all aspects of SF literature and film.

Mark Savage 32 Oakern St. Mt. Waverly, Victoria Australia 3149

The Time Machine on NBC-TV. In a word, it was horrendous. The dialogue was insipid, the acting moreso and the special effects could have put an orthodox insomniac into a terminal coma. I noticed that George Pal, who did the original theatrical film (which was marvelous), was in no way connected with the telefilm. While this is certainly a point in his favor, why is it the network did not see fit to consult a master craftsman when preparing this film?

George Hurly Linden, NJ 07036

We tend to agree with your summation of the televised Time Machine, George. Apparently, the only reason the powers-that-be failed to consult with Mr. Pal on the project, was one of sheer ignorance on their part. Says Mr. Pal of the telefilm: "I have to agree with Variety in their criticism of the movie. . . it was pretty terrible. Like Gertrude Stein used to say: if they steal from you,

(Continued on page 8)



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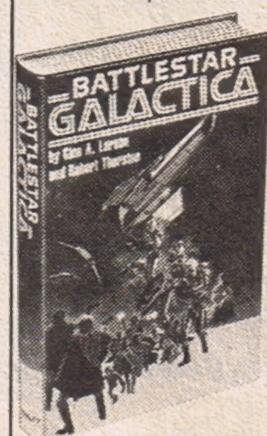
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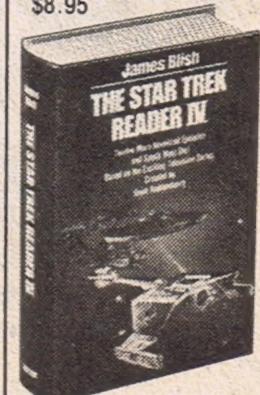
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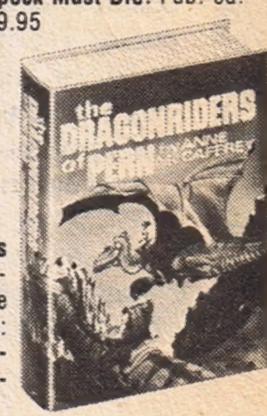
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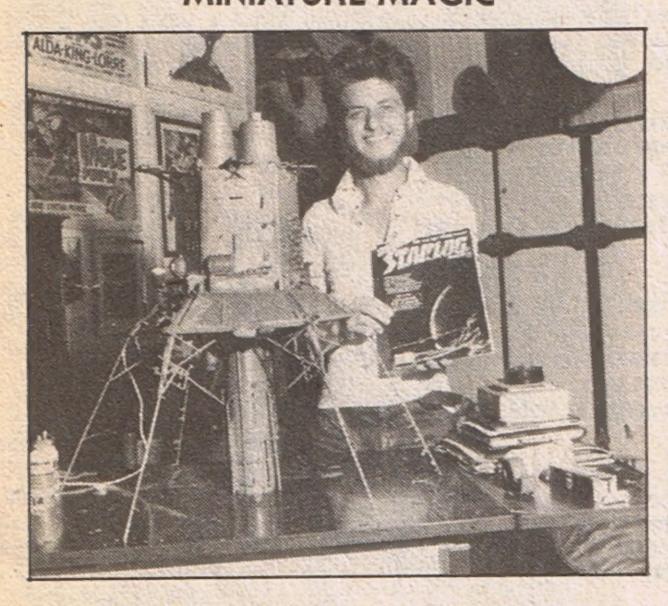
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COMMUNICATION

(Continued from page 6)

the least they could do is to make it better. I think the TV film used a lot of similar elements as my film, but brought them down several notches." At present, Mr. Pal is finishing up his Return of the Time Traveler novel, to be published by Dell next year. His scripts of Time Traveler, The Voyage of the Berg and The Disappearance are still being polished. He is also considering becoming a media star. "I saw STARLOG #18 on the stands," he laughs (the "Hollywood Hallowen" issue), "and I was thrilled. That was the first time in my career I was ever a 'cover boy!"

MINIATURE MAGIC



thought you might be interested in the enclosed picture. The guy holding the May issue of STARLOG is me, while the structure standing on the table is one of the four miniatures I built for Luigi Cozzi's The Adventures of Stella Star. This castle-like "gigantic" building is the Imperial Prison in which Stella is kept on Sigma III. The prison is destroyed by an enormous explosion during a furious revolt among the prisoners. Stella, of course, is saved. Please accept my warmest compliments for your magazine—it's intelligent, tasteful and very well made.

Andrea Ferrari Via St. Eusebio Milano, Italy

Thank you, Andrea. We feel the same way about your fantastic miniatures.

ROLLING YOUR OWN EXPLOSIONS

... I have just finished reading your article on SFX explosions for miniatures. I found it very interesting, but I still don't know how to make a ship blow apart. For example, you say that you have to cut up a model ship or building so that it explodes in a predictable manner. Fine, but you don't say what kind of explosive is used to blow it to "kingdom come."

Jean Malo 113 St. Joseph Buckingham, Quebec Canada J8L-1E8

...I would like some information on miniature explosions and what chemicals are used to make sparks fly, like explosions from *Star Wars* and *Battlestar Galactica*. Do you know a book or

catalog you can send me so that I will be able to know what it is going to cost me?

Gary Sich 5200 Montgomery Itica, MI 48087

planes and want to show three planes blowing up in the air, and since I don't want to animate this, I thought I could do it in miniature (without any explosives, just a flash of flame). I read about Dykstra using a chemical called magnesium and have called up about 20 chemical manufacturers and asked them about it and they say, "Magnesium what? ... chloride, thorium, what kind do you want?" Could you please find out the proper name of this chemical or something safer? I know you don't want to tell kids this, but I am 32 and capable of handling this. I am sure this is legal also.

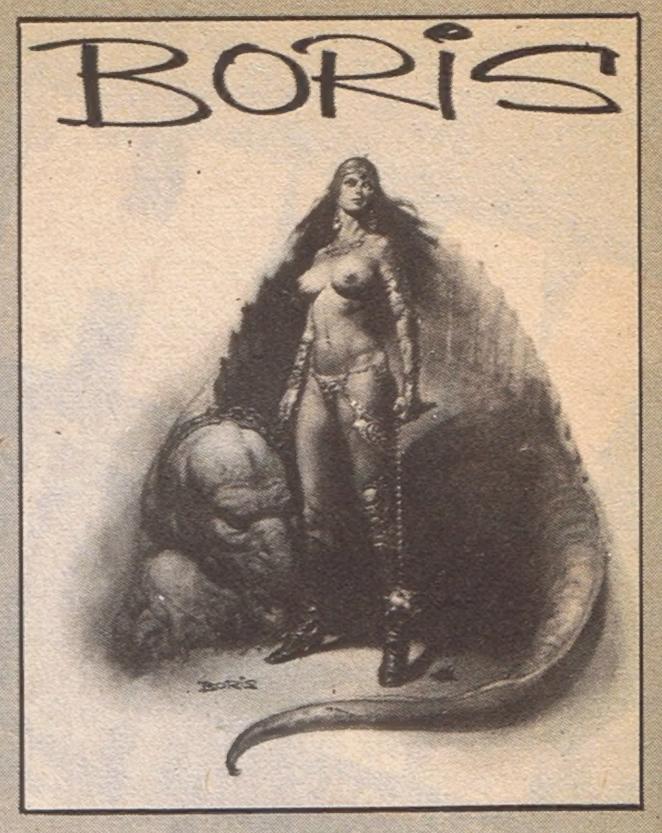
Bruce M. Zahlava One Longmeadow Rd. Norfolk, MA 02056

STARLOG's feature on the art of miniature explosions with the work of Joe Viskocil deliberately omitted any mention of the formulas for several reasons. Certainly the most important being that we did not want amateur filmmakers experimenting illegally with dangerous explosives in their backyards and garages. Private use of explosives and pyrotechnic materials is very strictly controlled by law-in most areas you must be licensed and supervised by a fire marshal. Additionally, the formulas themselves, the handling and preparation of the materials and their use are all outside the scope of this magazine. The publication of just the formulas or some of the ingredients as incomplete information would be dangerously irresponsible. However, do not despair, as there are alternatives for the amateur filmmaker which will probably look better than trying to film live explosions. (We don't think the average amateur has access to the necessary high-speed cameras—120 to 300 frames per second capability.) A little imagination can create a workable and visually interesting effect as the following reader suggests. If you have other ideas, let's hear from you.

... I enjoyed your SFX article on explosions for miniatures. There is one way I have found to safely simulate explosions. Placing a small, nonexplosive smoke bomb on the ground with a black background and filming from above at high-filming speeds. (Be careful: some smoke bombs can generate a lot of heat and scorch a cloth background; dry ice in water may be substituted.) This can be supered in with your models. You might also try using colored lights, such as orange and/or yellow, to illuminate the smoke, this will give it a more fiery effect. To simulate sparks and/or glowing, burning debris, try dropping glitter past colored light. (Superimpose this over the smoke effect.) With a little practice and some experimenting, some really fantastic effects can be made.

Matt Kropp 3475 Marathon Dr. San Diego, CA 92123

(Continued on page 10)



THE BORIS BOOK

For Boris fans, collectors and art enthusiasts, FUTURE has arranged for a limited quantity of a beautiful special edition magazine featuring the sketches and paintings of this talented artist. The book includes an interview with Boris, a complete index to his book covers and posters, photos of Boris posing, his family, his studio, many of his original prose-photos, and a superb collection of black-and-white reproductions of his paintings, original pen and ink sketches, book and comic covers, and even some of his early advertising art, greeting cards, etc. With a full-cover cover, glossy paper, 52 pages, 8½" × 11" format, this special book has a very limited press run and will not be mass-distributed to regular bookstores. Order your copy today, directly from FUTURE-only \$5.00 each, plus postage and packing.

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Written by Doris Vallejo



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COMMUNICATION

(Continued from page 8)

ALIENS FROM SCRATCH



... I am enclosing some pictures of myself and two friends. We have made our own Star Wars costumes from scratch. My Don Post Darth Vader Helmet was the only piece of my costume purchased. The storm trooper costumes, from head to toe, were made by Phillip Norwood and Don Olivera in their fiberglass class at school.

Mike Prescott 1643 No. Bay Ave. Santa Maria, CA 93454

CORRECTION

The photographs in the interview with Battlestar Galactica's Maren Jensen (STARLOG #19) were incorrectly credited to NBC-TV. They should have been credited to ABC-TV.

GLASSER ALBUM

... I recently purchased your Albert Glasser album and found it quite interesting. I'm really glad that this segment of film music is finally getting some exposure. I have a suggestion for a future release. A fine composer named Von Dexter wrote some fine film music for several of William Castle's horror films, among them "House on Haunted Hill," "The Tingler," "Thirteen Ghosts" and "Mr. Sardonicus". Perhaps you might even do an album on music from Mr. Castle's films.

Dick Thompson 824 W. 33-St. Baltimore, MD 21211

Thanks, Dick, for your kind response to our "Fantastic Film Music of Albert Glasser" album. We definitely agree that this area of film music has long been overlooked. It would also appear that your suggestion for music from the Castle films bears further study and research. We'll look into it.

STAR WARS SOUND FX

... Please explain the spectacular sound effects of the Star Wars spaceships. Were these the result of John Dykstra's work or that of Ben Burtt?

Richard Gaskin 5267 E. Webster Fresno, CA 93727

Ben Burtt created all of the remarkable sound FX for Star Wars. He also created the FX for the Star Wars TV Special and is now working up even "earier" FX for Star Wars II. Mr. Burtt is also an accomplished filmmaker; you may remember the 10

opening to the TV movie Killdozer which Mr. Burtt created. STARLOG hopes to feature Mr. Burtt and his work in various fields in a forthcoming issue.

HERRMANN LIVES

... I would like very much to know if your record company could make a record of Bernard Herrmann's magnificent score from The Day the Earth Stood Still? I bought the London record and, though the other selections were great, found the recording a tremendous disappointment. The original was probably Herrmann's greatest score, maybe even science fiction's greatest musical accomplishment.

C.J. Husted Port Byron, IL 61275

We probably won't choose any one score as Herrmann's greatest, but we will agree that Earth is one of science fiction's great musical accomplishments. STARLOG Records third release will be a Bernard Herrmann score, It's Alive 2. As this issue goes to press we are editing and mixing the 24-track master tape for a possible Quad release sometime around the first of the year. Sorry, but we have no immediate plans to release the Earth score.

WHERE IS ALIEN PERSPECTIVE?

... I have enjoyed reading your West Coast Editor's (David Houston) SF novel, Alien Perspective, and have recommended it to my friends. Unfortunately it is almost impossible to find it in bookstores or newsstands, so my copy is being mangled by well-meaning friends. Is there any way it can be ordered by mail?

Brian Leyman Gay, MI 49928

David confirms that "while the book is allegedly being distributed nationwide, the publishers must be sending it to hardware stores and bakeries." It can be ordered for \$1.75 plus \$.35 postage from Leisure Books, Box 270, Norwalk, CT 06852.

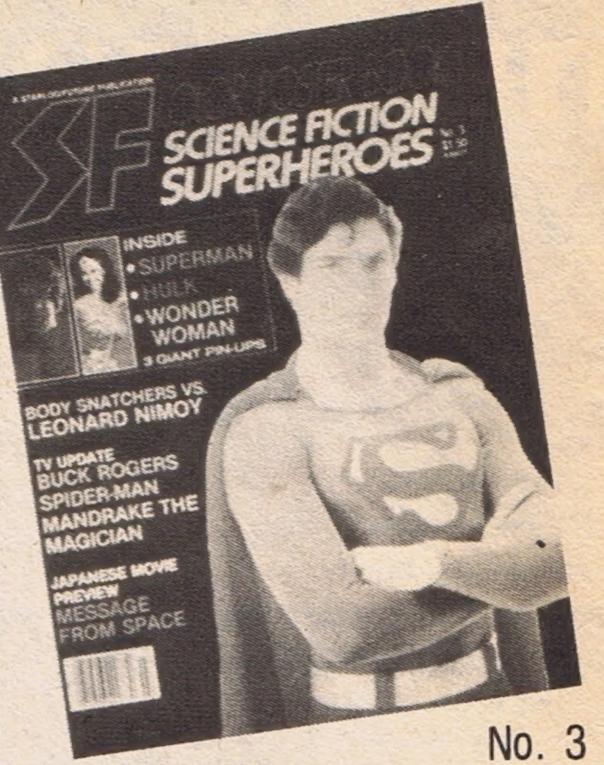
AMATEUR FILMMAKING

. . . Your magazine should have a column about amateur science fiction/fantasy filmmaking. I'm getting a Super 8mm camera and equipment and would like to know how other amateur sciencefiction filmmakers go about making their films.

Michael Brantley 17 Oakdale Drive Montevallo, AL 35115

You are not the first with this request; in fact, we've received so many requests for additional "roll your own" articles that we realized there wasn't room in the pages of STARLOG for all the articles, diagrams, photos and do-it-yourself special-effects coverage that the field deserves. Therefore, we are starting a separate magazine completely devoted to the projects of young filmmakers - CINEMAGIC. It's a fanzine title that has been around for several years but has been very limited in its circulation. See our announcement and ad in this issue for further details on the answer to your (and every other weekend filmmaker's) greatest dream.

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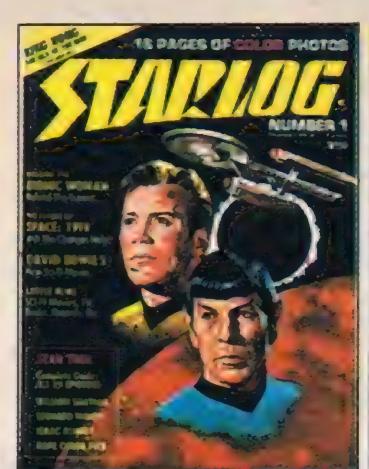
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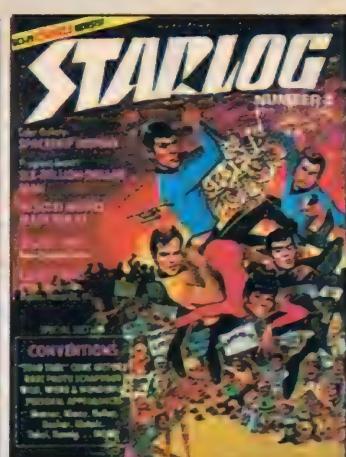


No. 1 —
"Star Trek" Rare Color Pics & Complete Episode Guide,

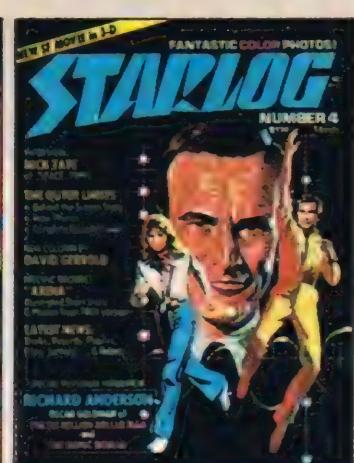
Shatner & Nimoy Article.



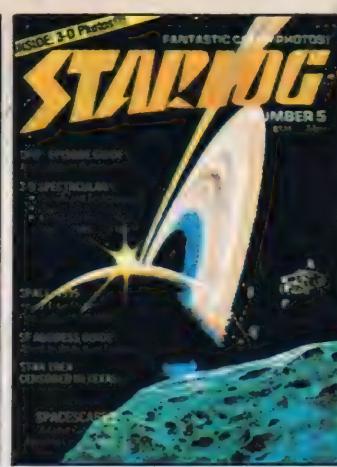
No. 2 —
"Space 1999" Year 1 Guide,
"War of the Worlds,"
"Logan's Run," The Comics



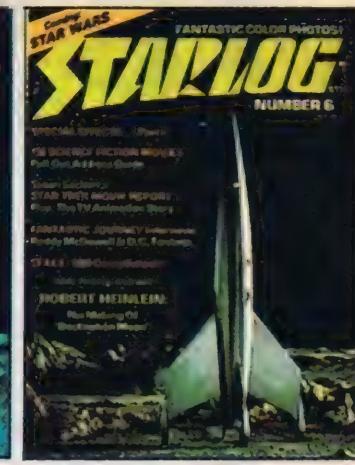
No. 3 —
"Star Trek" Convention,
Spaceships, "1999" Year 2
Guide, SFTV Movies Guide



No. 4 —
"Outer Limits" TV Guide,
"Arena," Nick Tate Talks,
3-D Movies Filmography



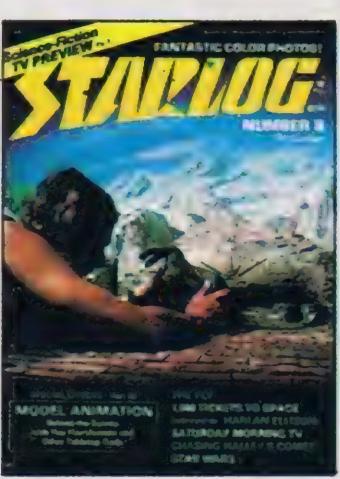
No. 5 —
3-D Part 2, "UFO" Guide,
"Star Trek" Censored, SF TV
Address Guide, Space Art



No. 6 —
"Fantastic Journey," "Star
Trek" Animated, Special
Effects—Part 1

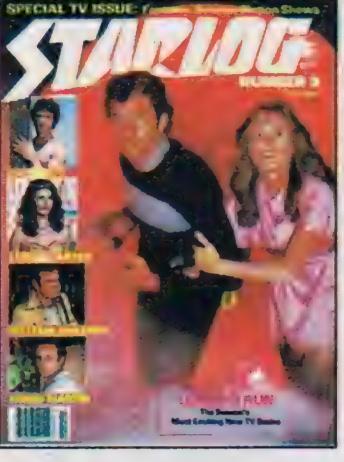


No.7 —
"Star Wars," Robby the
Robot, Eagle Blueprints,
"Star Trek" Report



No..8

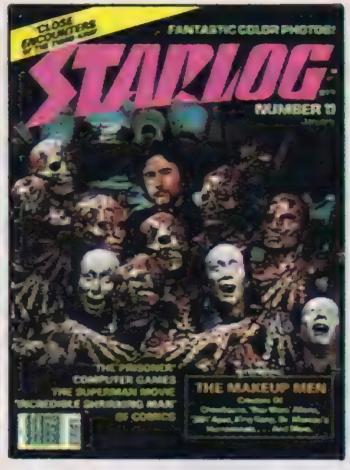
Model Animation, "The Fly,"
Harlan Ellison interview,
Set. A.M. TV, NASA Space Tix



No. 9—
Interviews: Pat Duffy, Lynda Carter, Shatner, Jared Martin, Fantastic Journey Guide, Star Wars, 50s TV SF.



No. 10—
Asimov, Close Encounters preview, SF-Rock, SF Merchandise Guide, Interviews: Harryhausen, Bakshi, George Pal.



No. 11—
The Prisoner, Computer Games,
The Superman movie, Incredible
Shrinking Man, SP FX: The
Makeup Men, SF Comics.



No. 12—
Close Encounters feature, Star
Trek II, Computer Animation,
Laser Blast, Art by Bonestell, The
Makeup Men, cont.



No. 13 —

Logan's Run Episode Guide, 3001.

Disney's Space Films, The Time

Machine. David Prowse

Darth Vader



No. 14 —
Virgil Finlay art, Jim Danforth interview, "Project UFO,"
Capricorn One, Star Wars
P S Ellenshaw



No. 15—

This Island Earth, Episode Guide
"The Twilight Zone". Sound
Effects. David Gerrold
"Death Beast", chap. 1



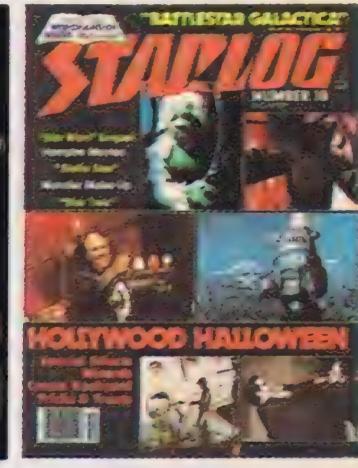
No. 16 —

The Invaders Episode Guide
Solar Power Satellites
Bob McCall's Buck Rogers Art
Interview: Alan Dean Föster

475 Park Avenue South, 8th Floor Suite, New York, N.Y. 10016



No. 17 —
Special Fall TV Issue
"Galactica" Color Poster
Interviews: Spielberg, Roddenberry
SFX: Miniature Explosions



No. 18 —
"Galactica"—Behind the Scenes
Dr. Jekyll & Mr. Hyde
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LOG ENTRIE

THE ULTIMATE ARABIAN ADVENTURE

Evil sorcerers, swashbuckling heroes, princesses in peril and mystical magic are alive and well—and due on screen this summer. Producer John Dark and director Kevin Connor, the team responsible for The People that Time Forgot, At the Earth's Core and Warlords of Atlantis, have now mounted an Arabian Adventure, a successful combination of the most colorful aspects of their prior fantasy flicks.

The late Brian Hayles, screenwriter for Warlords, came up with the far-fetched fairy tale before his untimely death last fall. "The story really boils down to a quest for truth and beauty against the forces of darkness and evil," says producer Dark. "It is dazzling and escapist family entertainment beyond our wildest dreams!"

Dark did the theme justice, pouring more money into the film's budget than he ever had before and hiring some of the genre's best acting and technical talent. Starring as Alquazar, an evil Caliph who rules the Kingdom of Jadur by terror, is Christopher Lee. One of the victims of his villainy is none other than Lee's longtime friend and co-star, Peter Cushing. Rounding out the cast are Mickey Rooney, Shane Rimmer, Milo O'Shea and two engaging newcomers—Oliver Tobias and Emma Samms.

Handling the SFX chores, which include extensive model, matte and physical-effect work, is George Gibbs, a longtime specialeffects coordinator who is taking on the role of supervisor for the first time. He's ably



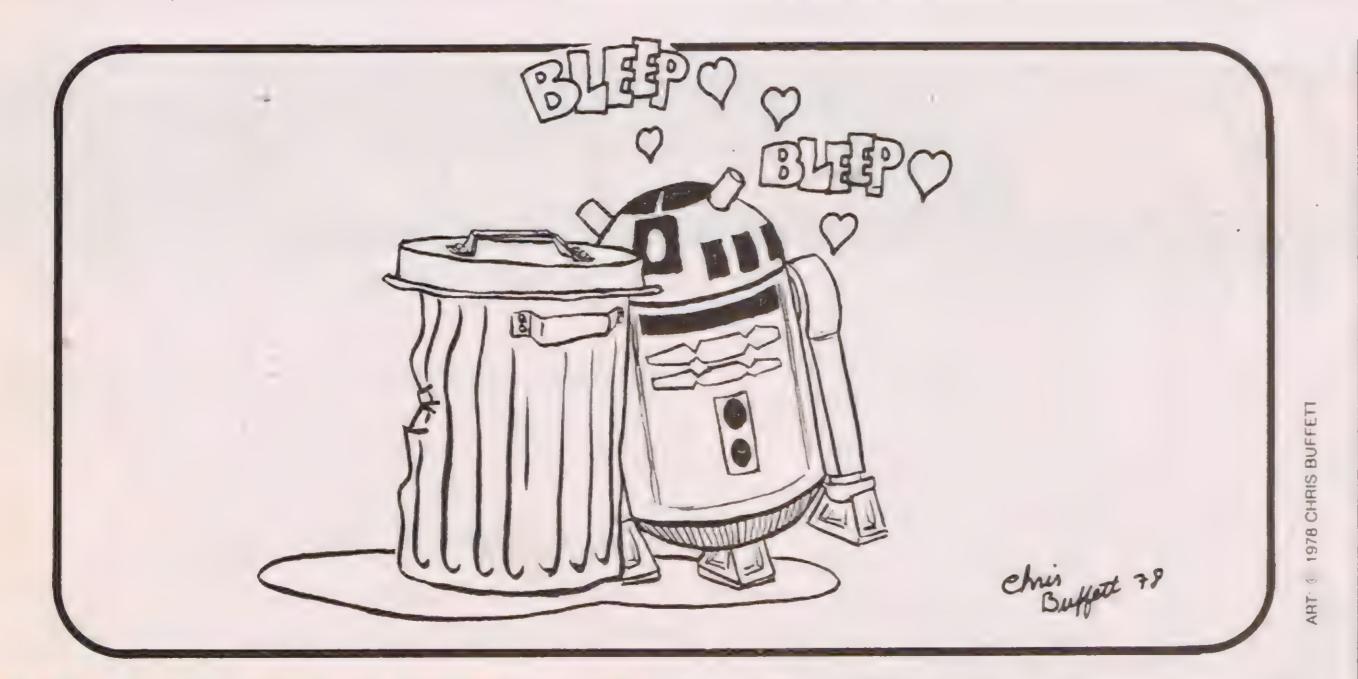
Production designer Elliot Scott has created cities, palaces and magic kingdoms of the caliber of Korda's superb 1940 production of *The Thief of Bagdad*.

assisted by matte-effects man, Cliff Culley, and director of photography, Alan Hume.

The result of the team's creative collaboration promises to be another success for the filmmakers, and one that marks a refreshing change of pace from their usual monster-ridden fare.

"These Eastern tales abound with lovely excursions into pure fantasy," says John

Dark. "It was a very beautiful period and a very beautiful territory. We hope to recreate, in our story, the exciting architecture and costumes, as well as some exciting special effects, like an army of flying carpets. It's an amalgam of a lot of stories, a lot of lore, magic mirrors, wicked spells, benign and evil jinnees and one or two very special ideas of our own."



WIN A DATE WITH DARTH VADER

Locasfilm Limited, home of the Official Star Wars Fan Club, has announced a cartoon contest in connection with the award-winning film and its sequel, The Em-

pire Strikes Back. To enter, submit a onepanel cartoon based on Star Wars. Entries will be judged on humorous content, not artistic ability. The winning entries will be redrawn by professional artists (if necessary) and published in Bantha Tracks, the fan club's newsletter.

The first prize winner will get an all-expenses-paid trip for two to England and a visit to EMI-Elstree Studios where *The Empire Strikes Back* is being filmed. Second prize is a trip to the gala American premiere of the film. Third prize winners receive a set of four signed and numbered, limited-edition *Star Wars* lithographs by Ralph Mc-Quarrie and Joe Johnston.

The contest is open to all members of the fan club, but non-members can include the \$5 club fee with their entry and be enrolled at the same time. Club members who enter are instructed to include their "Force Number." Your name and address must be on the back of each entry and there is no limit to the number of pieces you may enter.

All entries and membership fees should be sent to the Official Star Wars Fan Club, Box 8905, Universal City, CA 91608. Contest deadline is March 15, 1979.

LATEST NEWS FROM THE WORLDS OF SCIENCE FICTION & FACT

GORT RETIRES — FOUND IN OLD AGE GARAGE

Gort, the robot who co-starred with Michael Rennie in the 1951 science-fiction classic, The Day the Earth Stood Still, was recently discovered by freelance writer Steve Rubin languishing in a Belair, California, garage. The eight-foot fiberglass statue was used in only a few scenes from the film, much in the same way the hollow version of R2-D2 was used in Star Wars, for stationary shots. He could be seen from a distance guarding the ship when the Army tried to bore their way in and when Patricia Neal approached it after Klaatu's death.

But these weren't the only times Gort's figure has graced the screens. Larry



Harmon, a TV producer famous for "Bozo the Clown," brought the life-size model to use on an aborted television pilot entitled General Universe. When plans for that weekly series fell through, Harmon made some additions to Gort's frame, then used him as "Rotar," the faithful companion to Commander Comet. The Commander was played by Harmon himself and Gort was decked out with a hidden speaker so the immobile figure could talk. The motionless monster was perfect for the inexpensive, studio-bound program of the 50s.

After Comet's two-and-a-half season run, Gort retired to Harmon's garage where he has been kept in top condition by Harmon's son, Jeff.

Gort as he appeared on Commander Comet with the show's star, Larry Harmon.

HOMEGROWN STOP-MOTION EPIC

STARLOG's European readers will be the first to see a new independent feature

which makes extensive use of model animation. Planet of Dinosaurs employs an un-



James Aupperle, associate producer and half of the special visual-effects team, pauses for a moment with miniature and rear-projection set-up designed for *Planet of Dinosaurs*. The animation for this sequence was under the skilled hands of Douglas Beswick, who did about two-thirds of the stop-motion animation in the film. *Planet* premieres in Europe this month and hopefully later this year in the U.S.

usual quantity of special-effects footage—about 10 minutes of model animation—and uses about a dozen creatures in various sequences. This feature is also the first professional full-length motion picture from executive producer Stephen Czerkas and associate producers James Aupperle and James R. Waite. Czerkas and Aupperle also designed the special visual effects. This film reinforces the current trend in the "cinema of the fantastic" toward special-effects artists playing starring roles.

The story concerns the survival of a starship crew that has been shipwrecked on an unknown planet that parallels the development of prehistoric Earth. With only a few weapons and salvaged supplies they must learn to survive in a new world that is completely alien to their old technological pushbutton existence.

Also on the production team are Doug Beswick, who did about two-thirds of the stop-motion animation, and Jim Danforth, who created three matte paintings. Other examples of the special-effects work of Czerkas and Aupperle can be seen in this issue's article on Jason of Star Command. For Planet of Dinosaurs, Czerkas built the miniature stop-motion models as well as three life-size dinosaurs. Aupperle did all of the effects photography, including the miniature composite setups (utilizing both front andrear projection), high-speed miniatures, and the action sequences involving the sea monster. The model armatures were crafted by Victor Niblock. Spaceship miniatures were designed and built by Stephen C. Wathen.

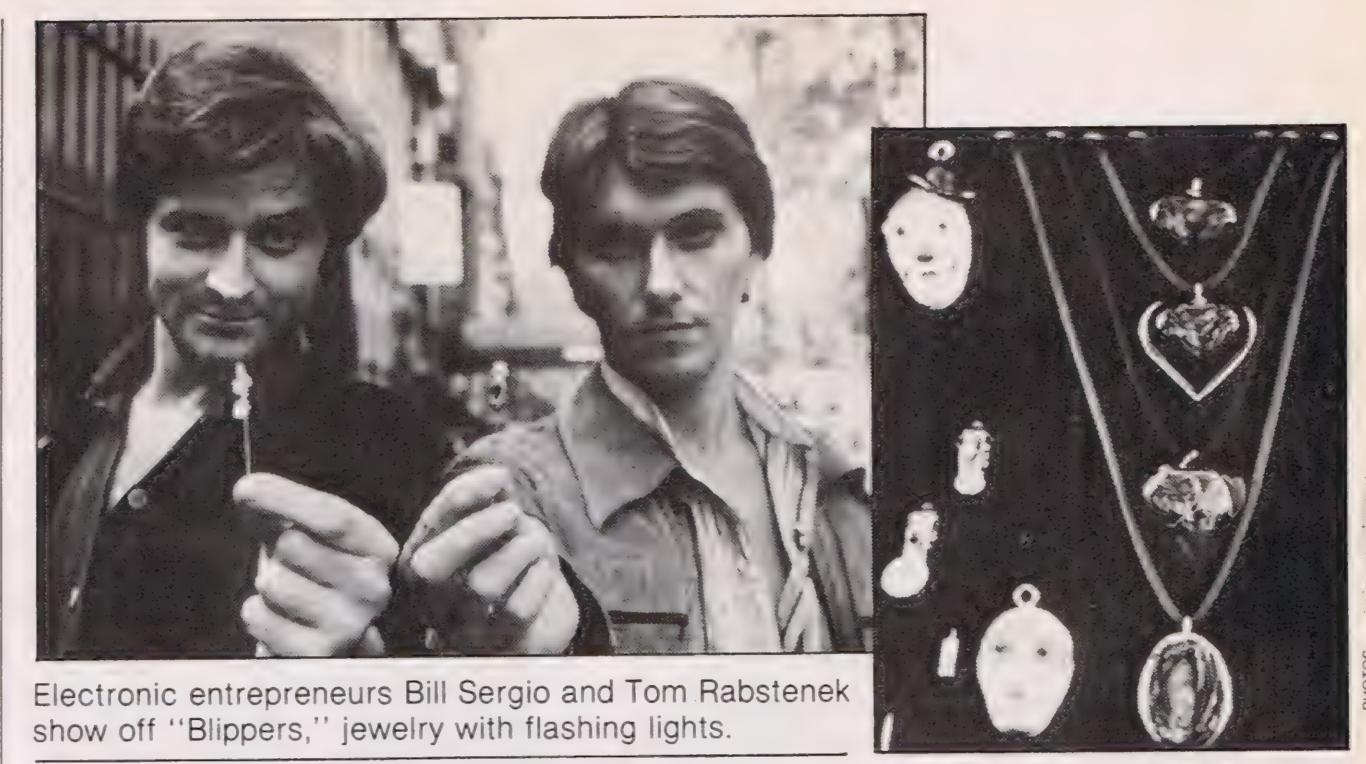
The film premieres in Italy this month, though at press time American distribution rights were still being negotiated.

TECHNO-JEWELRY

They're called Blippers: stickpins crowned with metal and plastic forms—painted clown faces; shiny, opaque hearts and pendants; an assortment of tiny owls, lockets and other forms. What they have in common, aside from their name, is a tiny flashing, light-emitting diode (LED) embedded into each one. The electronic hardware that gave birth to computers is fast spreading into popular use, evidenced by inexpensive digital watches and pocket calculators. Blippers are an exciting example of their influence on jewelry.

Blippers are the brainchild of Bill Sergio and Tom Rabstenek, partners in the appropriately named Galaxy Systems, Inc. Earlier attempts at electronic jewelry were complicated, bulky affairs, constructed of separate components and powered by an external battery, but Blippers are space-saving hybrid units, created from Sergio's own integrated-circuit designs and powered by a built-in, replaceable hearing-aid battery.

Priced at \$14 to \$16, Blippers have caught



on with people who like to wear their science fiction instead of just reading or watching it. The items are available at bedrock institutions like Macy's and Bloomingdale's in New York, as well as spacey little boutiques.

Galaxy Systems also custom-creates Blippers as promotional items for stores, record companies and other clients. It's safe to assume they're just getting started. Sergio is now talking of plans and concepts based on microbiology, theoretical physics and advanced electronics. If 10 percent of their plans come to fruition, Galaxy Systems will be a lot more than a blip on the horizon.



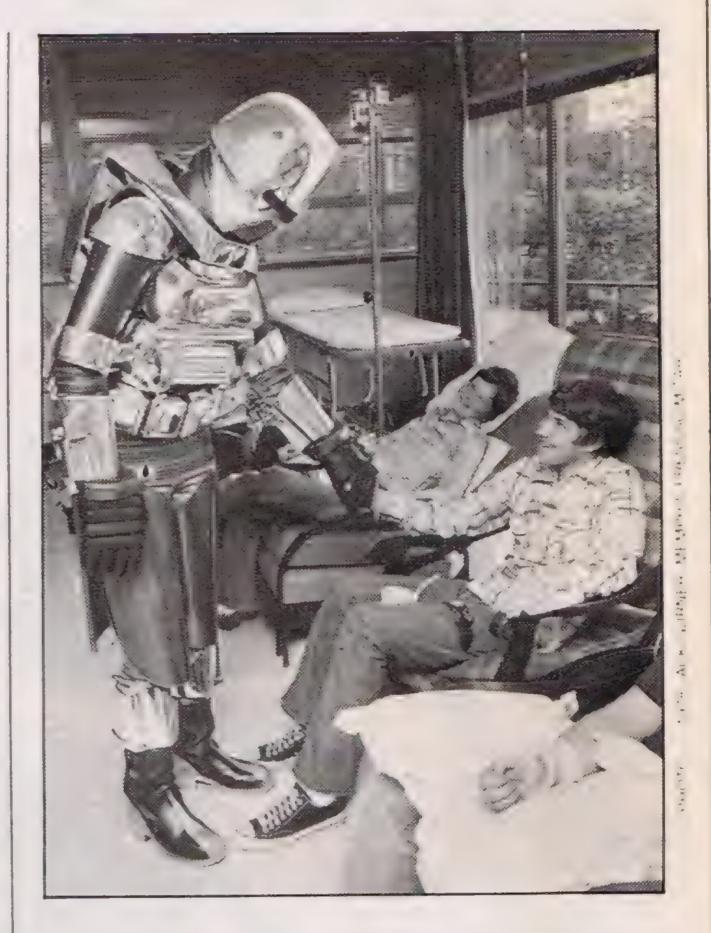
HORRIFIC WHO'S WHO

Taplinger Publishing Company has just released a macabre literature fanatic's dream-come-true, Who's Who in Horror and Fantasy Fiction. The book offers an A-to-Z listing of authors who have dabbled in monstrous fiction, listing relevant works and biographical trivia. Included in the encyclopedia are names that span centuries, from Poe, Hawthorne and Lovecraft to Bradbury, Stephen King, Robert E. Howard and anthologist Vic Ghidalia. Also present in Who's Who is a chronology of fantastic literary events from 2000 BC to the present and a listing of key stories, books, anthologies, magazines and fantasy-horror awards. Compiled by British author Mike Ashley, Who's Who sells for \$4.95 in paperback, \$10.95 in hardcover.

CYLON CHEER FOR MEMPHIS KIDS

Children's Hospital in Memphis, Tennessee, were visited by an unusual "star." In the past, the youngsters have been visited by presidents, movie stars and other notable newsmakers. This time, however, the guest was a little different.

To promote the limited release of Battle-star Galactica in selected American theaters, Universal studios shipped one of the Cylon Centurion costumes down to Memphis to promote the film's release. As part of the campaign, the Cylon paid a visit to the Children's Hospital—much to the awe and delight of the youngsters. The evil alien robot was an instant hit with the children, some of whom weren't quite sure what to make of their chrome-laden guest. Inside the 65-pound, \$3,000 costume was 20-year-old Larry Dexter, bravely sweating out the hours.



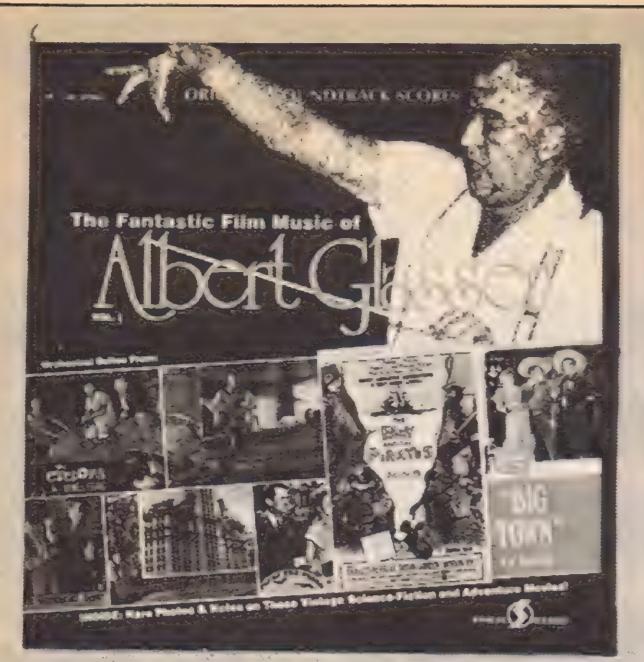
Larry Dexter inside the 65-pound, \$3000 Cylon suit, greets kids at Memphis Children's Hospital.

ROBBY LINKED WITH WONDER WOMAN

Robby, the robot who was born in MGM's great SF classic, Forbidden Planet, stepped before the cameras again in late November as a special guest star in CBS's Wonder Woman. The episode is entitled "Spaced Out" and takes place at a

science-fiction convention peopled with SF fans dressed in *Star Wars* and *Star Trek* costumes. Robby is one of the guests at the con and appears as himself. In recent years, the venerable robot has guest-starred on *Columbo*, *Ark II*, *Lost in Space* and *Space Academy*.

The Wonder Woman script was penned by UCLA grad student Bill Taylor, an SF fan and frequent convention-goer.



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About a year before Herrmann's death, he composed and conducted a moody, mysterious score for "It's Alive," an SF-horror tale of a monster, mutant baby. The success of the film led to a sequel, and Herrmann's music was lovingly and respectfully reorchestrated and conducted by his dear friend Laurie Johnson. It's not party music; it's a score for those who want to dim the lights, get into a dark mood, and listen carefully to some wonderful musical chords and effects, including bizarre instruments such as twin synthesizers. The score to "It's Alive 2" (complete on this record) will recall the entire range of Bernard Herrmann's golden years in film music.

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Harryhausen with recent Sinbad-dies.

SPACE: A HARRYHAUSEN FRONTIER

One-eyed centaurs, fire-breathing dragons, cyclopean satyrs, sword-wielding statues and fire-eyed demons...all have been cinematically thrown at the greatest of all swashbuckling daredevils—Sinbad the Sailor. From *The Seventh Voyage of Sin*bad in 1958 through *The Golden Voyage of* Sinbad in 1973 and Sinbad and the Eye of the Tiger in 1977, stop-motion animator Ray Harryhausen has been pitting his intrepid hero against all manner of animated mythical monsters.

But the veteran SFX man and "Father of Dynarama" promises that these fantasy-filled thrills will be nothing compared to his

new production—Sinbad on Mars. For the first time since First Men in the Moon, the team of Charles Schneer and Harryhausen is venturing into outer space to pit their most famous character against the denizens of an Edgar Rice Burroughs-esque Mars.

The script, by Jason and the Argonauts' author Beverly Cross, has all the ingredients which have made the other trio successful: a beautiful princess, a powerful sorcerer and incredible monsters—only this time the damsel in dire peril is on another planet and Sinbad uses the wizard's wares to get him there safely.

As of yet, no cast has been signed, but Harryhausen has set filming to begin on the island of Malta sometime next spring. But acting hopefuls, be warned: people with retractable antennae need not apply.

THE BITE OF THE DEVIL FISH

The devil fish is a real fish," producer Bert I. Gordon says, pointing to an 8x10 photo of a particularly nasty-looking sea creature. "It's a 30-foot swordfish. When it attacks, it moves its sword back and forth like a scythe and then leisurely eats the pieces. I'll be using a live devil fish in this movie as well as giant sharks."

Gordon, the filmmaker responsible for Food of the Gods, Empire of the Ants and The Spider, is currently envisioning a creature fright film to "out creature" all previous contenders... Devil Fish. "It's like an underwater Star Wars," he says. "It's sort of a James Bond-The Deep-Jaws adventure, but it's all based on fact. There won't be any giant, atomic mutations in this film. The story features government intrigue, oil interest, action... everything."

The producer-director-writer of the upcoming film points to a dozen or so paintings of scenes from *Devil Fish* portraying a team of divers swimming through what seems to be an underwater zoo/science lab. "We're story boarding like crazy. Every single camera angle is being painted. Since over 50 percent of the film takes place underwater, what I'll do is laminate every one of these paintings. Before a scene, I'll give direction above water and then take the painting down below during the actual filming of the scene. It will remind everyone of just what I need."

Gordon, who had to learn to dive for the movie, scouted underwater locations all over the world before finding appropriately eerie scenery near the Bahamas, Key West, Florida and the California coast. "We're going down as far as 125 feet," he reveals. "This hasn't really been done before. The formation of lava at that depth is totally unique. It will give the movie a look that is unreal. We'll do about 12 months of princi-

pal photography before we go into six months of effects. I've devised a method of visual effects that has never been used underwater before—a traveling matte process, with multi-mattes. Some underwater shots will involve five and six separate pieces of film."

During the conversation, Gordon does his best to ignore a tiny model of a devil fish sitting on his office desk. Finally, when quizzed as to its purpose, he breaks down and gives away a small detail of his top-secret story. "This is a pretty crude model," he stresses. "We wanted to test out its motor action. You see, at one point in the script we have to blow up some fish. We're going to use large mechanical miniatures. We wouldn't actually explode live fish."

Priced at five million dollars plus, Devil Fish will be Gordon's biggest film to date. "It's the biggest underwater adventure ever," Gordon says smiling. "Absolutely the biggest."





FANTASTIC ART IN LIMITED EDITIONS

Gerry de la Ree, editor and publisher of some of the most beautiful compilations of SF and fantasy art, is at it again. In STARLOG#14, de la Ree gave readers an insight into the art and personality of master fantasist Virgil Finlay. Illustrating the article were a dozen pieces of art from de la Ree's, The Art of Virgil Finlay.

The Second Book of Virgil Finlay, with an additional 120 of Finlay's finest pen-and-ink drawings, was released in 1978 along with another volume entitled The Art of the Fantastic. This anthology showcases the work of over two dozen artists, including Ed Cartier, Fabian, and Ed Emsh.

De la Ree's latest opus is *The Third Book* of Virgil Finlay, published earlier this month. As with all of his art books, this volume has been published as a limited edition—1300 numbered copies. De la Ree's books are printed on high-quality paper stock and as a group form a fairly definitive as well as beautiful history of science fiction and fantasy's most talented illustrators.

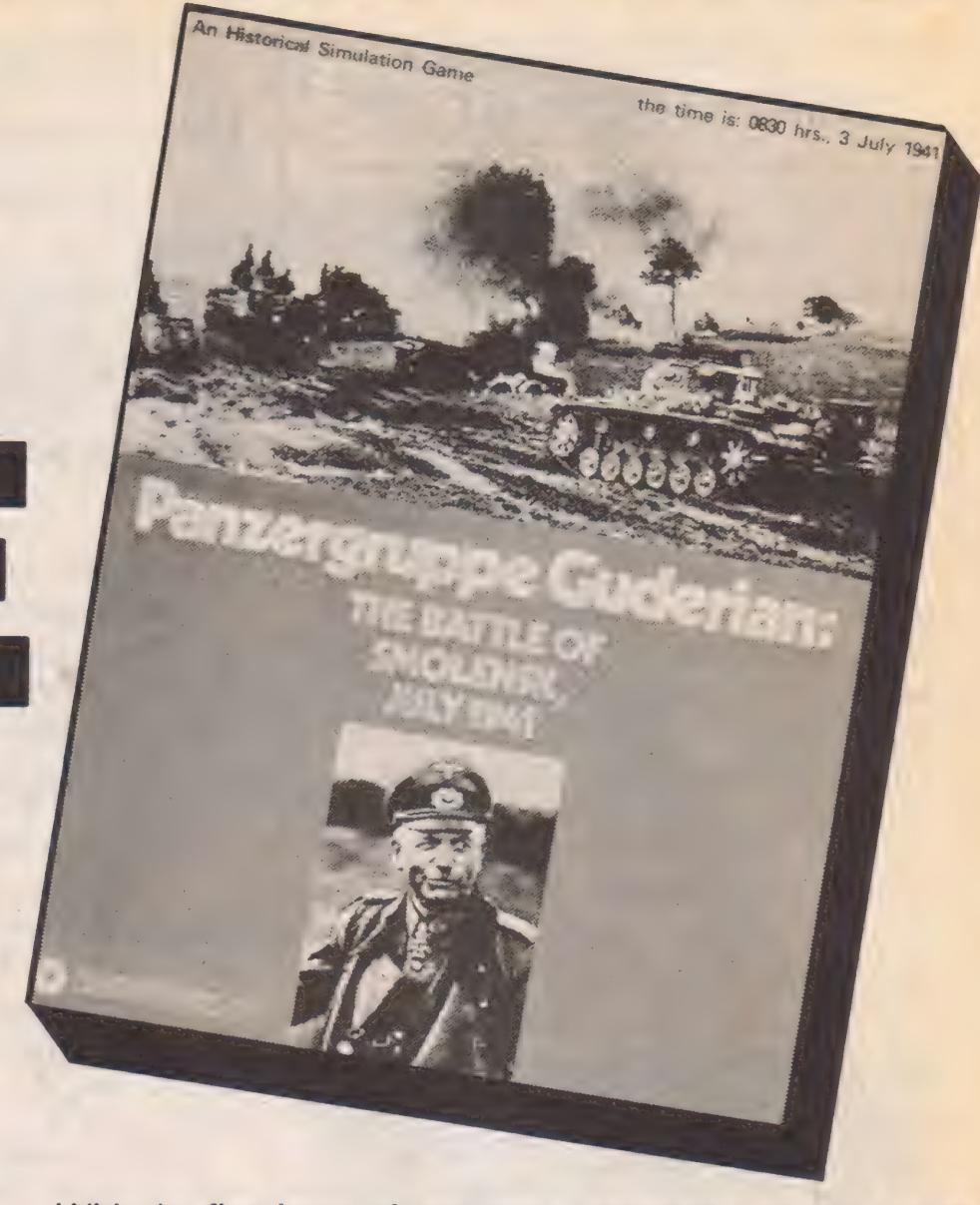
To inquire write directly to Gerry de la Ree, 7 Cedarwood Lane, Saddle River, N.J. 07458.

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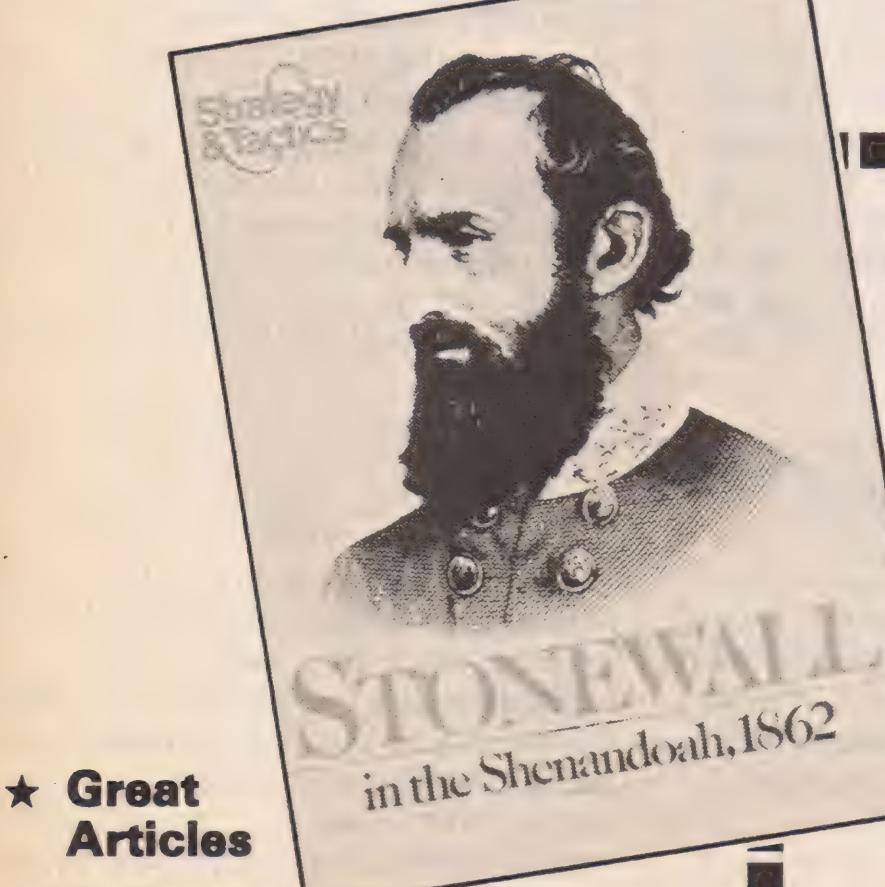
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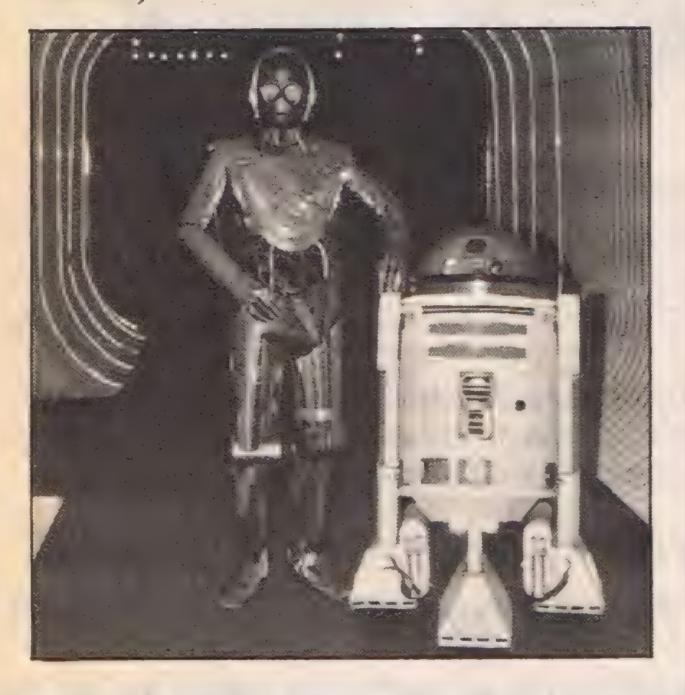
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ALIEN-IN-RESIDENCE CONQUERS FANTASY CONS

Throughout the past half-year, STARLOG's own resident alien has made several appearances within the pages of this magazine.

In the "Classified Information" section of issue #18, page 71, there is an ad entitled "Rent-An-Alien" which features the same Starlogger dressed in his Coridian Alien outfit. The extraterrestrial in question is STARLOG production assistant Peter Mosen.

During the last half of 1978, Peter won prizes in the costume competitions of eight of the major SF/fantasy/comics conventions held on the east coast, placing no less than third. First place victories include the New York City Creation Mini-Con in October (as C3PO with an R2-D2 unit); the Halloween Costume Contest at Hoops Disco in Mt. Vernon, New York (also as C3PO with an R2 unit); and the Thanksgiving Creation Con in New York City (this time as a Cylon warrior).



ON THE SPACE SHUTTLE

ot an out-of-this world experiment you want to do? STARLOG and FUTURE have reserved a place on the space shuttle and we're giving it away to the person or group who comes up with the best idea for how to use it.

self-contained experimental package to be flown to space on the shuttle in 1984—is up for grabs. If you have some bright idea, burning question or fantastic theory you want to test in the zero-gravity, vacuum "laboratory" of space, here's your chance for a free ride to Earth orbit. STARLOG and FUTURE will pick up the \$10,000 transportation cost.

For complete details on how to enter the contest, read the full announcement carried in STARLOG #19 and FUTURE #7 and #8. Contest deadline is July 20, 1979.

"FUTURE" MUTATES

and now into its eighth issue, will become FUTURE LIFE with issue -9—on sale February 19. The new all-glossy, color-packed magazine will retain all of FUTURE's most popular features—space art port-folios, science-fiction media coverage, speculative articles by top name authors—and combine those elements with lively features on a wide range of topics, all with the accent on things to come.

In the first issue of FUTURE LIFE:

-An early tour of Walt Disney's model future city, EPCOT (Experimental Prototype Community of Tomorrow), now under construction near Disney World in

-A revealing interview with science fiction's last angry man: Harlan Ellison talks about the peaks and perils of cult hero

-Jacques Cousteau offers his views on technology, politics and the environment.

-On the media front: a fantastic photopreview of the next James Bond epic, Moonraker, complete with villainous space shuttles and a sky station full of gorgeous clones; a first look at TV's The Martian Chronicles, starring Rock Hudson; and a reunion aboard the Starship Enterprise.

Plus, FUTURE LIFE celebrates the 100th birthday of Albert Einstein, brings you the latest news on UFOs from the UN.

Don't miss the premiere issue of FUTURE LIFE . . . we've seen the future and it looks like fun!

HERRMANN'S MUSIC LIVES!

STARLOG Records is preparing its third release—It's Alive 2. The music is by the late film composer Bernard Herrmann. Herrmann wrote the score to the Larry Cohen film, It's Alive, shortly before his death in 1975.

STARLOG Records takes great pride in preserving Herrmann's music for It's Alive 2. The 24-track original master tapes are being mixed down to a 4-channel discrete tape. STARLOG Records will release the album in the SQ Quad Matrix system. That means Herrmann's music can be played on regular stereophonic systems as well as quadrophonic systems.

Herrmann was a conductor's dream...
he demanded and got large orchestras,
exotic instruments and even worked with
the director on the set of the production
(almost unheard-of today). STARLOG
Records feels that the use of multichannel
systems will beautifully preserve this spectacular tribute to Bernard Herrmann. The
master composer may be gone, but his
music lives! It's Alive 2 will be ready for
release by January 1979...and will breathe
new life into all Herrmann fans.

STARLOG GOES MONTHLY

Starting with issue #21, STARLOG will become a monthly magazine, scheduled to go on sale on or about the 15th of each month.

Publishers Norman Jacobs and Kerry O'Quinn made the decision based on STAR-LOG's steadily increasing popularity and sales. STARLOG, "The Magazine of the Future," has become the most successful, most widely circulated science-fiction magazine in the history of the field.

STARLOG premiered in the summer of 1976 with a special Star Trek issue and plans for quarterly publication—if reader and sales response warranted such a move. Issue #1 proved to be quite successful and #2 appeared in the fall of '76 with a special section on Space: 1999. By the time #4 was in production, Jacobs and O'Quinn had already decided on an eight-times-a-year schedule.

The publishers promise that the monthly STARLOG will continue to grow and evolve into the *ultimate* science-fiction magazine, with many surprise features set for the upcoming year.

STARLOG HONORED BY SF ACADEMY

The Academy of Science Fiction, Fantasy and Horror Films presented STARLOG with a special achievement award, a Golden Scroll of Merit, at its sixth annual membership luncheon in Los Angeles on November 26.

Presenting the award, actress Ann Robinson (Sylvia in War of the Worlds) cited the importance of magazines for film fans and filmmakers, and congratulated STARLOG for its continuing excellence. David Houston, the magazine's West Coast Editor, accepted the award "on behalf of

the publishers, editors, artists and contributors of STARLOG."

The Academy consists of both fans and professionals and numbers among its 1,200 members many SF, fantasy and horror luminaries—Ray Harryhausen, Ray Bradbury, A.E. Van Vogt, Jerry Pournelle and actors William Marshall, Christopher Lee and Kirk Alyn, to name a few. The group attained nationwide prominence last year with the syndicated telecast of its awards ceremony, which featured William Shatner, Charlton Heston, Melinda Dillon, George Burns, Richard Benjamin, Mark Hamill, and astronauts Buzz Aldrin and Pete Conrad.

MAGAZINES OF TOMORROW LAUNCH FILM VENTURE

Productions, Inc. Growing out of their successful science-fiction publishing operation, the new company will be acquiring, developing, producing and distributing theatrical and non-theatrical movies.

Named for the field it will spotlight—science fiction—the SF logo also represents STARLOG and FUTURE magazines, currently distributed on newsstands throughout the U.S., Canada and many foreign countries.

"Through our magazines, we are closely in touch with the science-fiction audience," said co-publisher O'Quinn, "and we are confident that we can develop motion pictures that not only hit that market, but also have general mainstream appeal because of entertainment values and positive themes. We have established good relationships with the top special-effects people in the world: animators, modelmakers, matte painters—everything—but the movies we are planning will feature much more than spectacular special effects."

"As soon as commitments are firm on our first film release," added co-publisher Jacobs, "we will announce it—probably early this year. STARLOG and FUTURE readers will naturally be the first to know of definite plans."

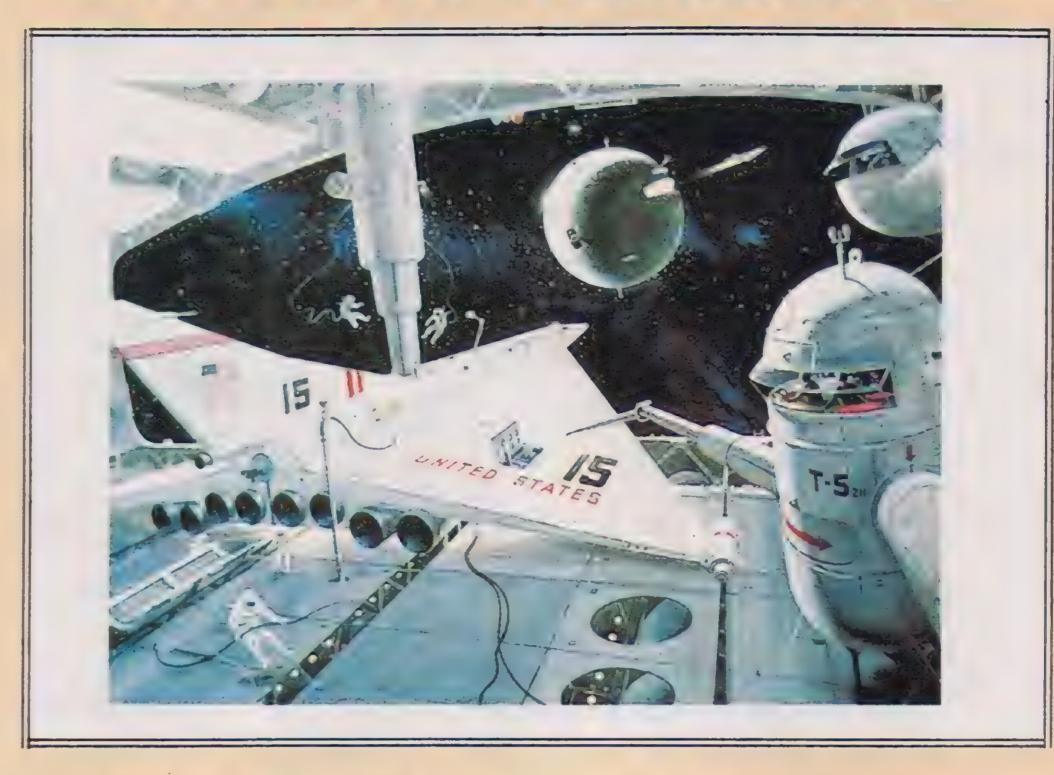
TWO NEW MAGAZINES JOIN STARLOG/FUTURE FAMILY

FANTASTICA, a brand new, color-packed magazine covering the realms of fantasy, horror, monster makeup and farout science fiction, will debut in February. New from the publishers of STARLOG and FUTURE, the premiere, collector's edition of FANTASTICA will include: original fantasy art portfolio, the inside story on *The Creature from the Black Lagoon*, an exclusive interview with vaunted vampire Christopher Lee, a behind-the-scenes peek at *Galactica's* missing aliens, fright film update, monster movie previews...and a giant fold-out poster of Godzilla. Don't miss the first issue of FANTASTICA.

In March watch for STARLOG/FUTURE's first issue of CINEMAGIC—the magazine for aspiring filmmakers in the fantastic cinema genre. Detailed, informative articles on special-effects techniques and production secrets, accompanied by step-by-step illustrations, will capture the attention of amateur filmmakers. In the first issue of CINEMAGIC: how to make your star creatures fly!

CINEMAGIC will not be sold on newsstands, so check the ad in this issue for your charter subscription.

NEWEST RELEASE



SPACE ART CLUB Print #1, "Space Station 2000"
Painted by Bob McCali

"Space Station 2000": In the docking port of a future space station (like the one seen in the distance), a sleek spacecraft is serviced. The spacecraft is a second-generation shuttle, one that is less of a truck and more of a taxi, smaller and more maneuverable than NASA's current space shuttle. The multipurpose space station is a scientific laboratory, astronomy outpost and spacecraft service station. Located in high Earth orbit, the massive human-built spheres are way stations for travelers between Earth and Moon—and the starting point for expeditions setting out to explore the Solar System.

Bob McCall: Isaac Asimov has christened Bob McCall the "artist-in-residence" of outer space. Since his seminal paintings for Life magazine in 1964, McCall's work has given us some of the richest, most immediate images of the space age to date—and some of the most compelling visions of what the future might bring. His six-story mural for the Smithsonian Air and Space Museum in Washington, D.C., is a glorious tribute to our accomplishments in space. McCall is currently at work on another large-scale mural for the Johnson Space Center in Houston—this one onflight.

t's too late to join FUTURE's Space Art Club, but if you hurry you can still purchase individual prints as they are issued. The Club's first print is "Space Station 2000" by renowned space artist Bob McCall. A limited number of the high quality, fine art prints will be available for a short time. Cost for 18" x 24" suitable-for-framing print is \$10. Prints will be mailed in reinforced cardboard tubes. Postage and handling cost is \$2. So if this spectacular vision of the future by one of America's favorite space artists appeals to you—order now! When the Space Art Club runs out of prints, that's it. This is a strictly limited edition. When our supply of prints is gone, money will be returned.

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Happy Birthday Buck

By GEORGE S. JAMES & FRANK H. WINTER

n Monday, January 7, 1929, a new comic strip appeared, bearing the prologue, "I was 20 years old when they stopped the World War and mustered me out of the air service. I got a job surveying the lower levels of an abandoned mine near Pittsburgh in which the atmosphere had a peculiar, pungent tang, and the crumbling rock glowed strangely. I was examining it when suddenly the roof behind me caved in, and...."

The following day, the prologue continued, "When I emerged from the mine where I had lain in a state of suspended ani-

mation, it was to find a strange world. I stood in a vast forest and a girl soldier, sailing through the air, crashed at my feet unconscious."

And on the third day, "I had difficulty in convincing the girl that I had slept 500 years. It was hard to believe it myself."

So began *Buck Rogers 2429 AD*, and with it, Buck's continuing influence on modern-day society. Through books, daily and Sunday comic strips, radio programs, magazines, toys, movie serials and TV programs during the past 50 years, Buck Rogers has succeeded in preconditioning the public to new advances in science and technology. In fact, the world has come to recognize the term "Buck Rogers" as refer-

This is but one of a series of "Pop-Up" books done in the thirties. In addition to the books, *Buck Rogers* merchandise included pistols, hosters, helmets, school bags, knives, footballs, rocket ships, roller skates, rubber stamps, chemical sets, watches and more.

ring to all things futuristic.

Today, the Buck Rogers character is legend. How many other 70-year-old men have become part of the English language, have been enshrined in the National Air and Space Museum of the Smithsonian Institution or have been teleported to and from the eclipsing binary star Beta Lyrae, some 1,600 light-years away? In 1979, the year of the space shuttle, and with a multi-million-dollar *Buck* motion picture due this spring, it is clear that Buck Rogers, World War I flying ace and all-around hero, transcends all limits of time and space.

The Legend

Buck Rogers was born in the August 1928 issue of *Amazing Stories*. As Anthony Rogers, he appeared in Philip Francis Nowlan's story "Armageddon 2429 AD." In March 1929, a sequel story appeared entitled "The Air-Lords of Han."

By that time, however, the comic strip version of the original story had blossomed and Buck Rogers fever was overtaking America. Nowlan, following the initial publication of "Armageddon," sent a copy of the story, which had been illustrated by the immortal Frank R. Paul, to John Flint Dille, president of the National Newspaper Service Syndicate, for possible serialization. Dille had wanted to start a science-adventure comic strip for quite some time. He liked Nowlan's story, convinced him that "Buck" was a much better name for a hero than "Anthony," and invited him to join artist Richard W. Calkins in producing a Buck Rogers comic strip.

The original daily comic also starred Buck's courageous and charming companion Wilma Deering and brilliant scientist Dr. Huer, a combination of Albert Einstein and Robert H. Goddard. Realizing the need to appeal to the young readers of the Sunday funnies, Dille began a Sunday

Frank H. Winter has been a big Buck Rogers booster since childhood. He is an astronautics historian and works for the Air and Space Museum of the Smithsonian Institution. George S. James also found career motivation through exposure to Buck. He is now program manager at the National Science Foundation and worked as a consultant to the Air and Space Museum on their Buck Rogers Exhibit.

version of Buck Rogers on March 30, 1930. This independent variation featured the adventures of young Buddy Deering, Wilma's brother and teen-aged Alura, a princess of Mars, as they explored the Solar System of 500 years from now.

The youth of the day could identify with the lives of these young explorers who, more often than not, were rescued from dire straits by Buck and Wilma. As with the daily strip, the continuity was written by Nowlan. However, although the drawings were signed by famed artist Calkins, the work was actually done by his assistants, beginning with Russell Keaton and continuing, after 1933, with Richard Sydney Yager.

Nowlan passed away on February 1, 1940. Calkins left the strip in 1947, passing away in 1962. As the two originators of the strip disappeared from Buck's life, a group of imaginative artists and writers stepped in to pick up the slack. Yager wrote the Sunday continuity after Nowlan died, as well as drawing the strip until his resignation in 1958. Continuity for the daily strip, after Calkin's departure, was provided by Bob Barton. In 1951, Yager took over the daily strip as well as the Sunday. The writing of

the two strips, following Yager's resignation, was handled by a host of freelance authors, including Fritz Leiber.

The daily Buck Rogers adventures were drawn from 1947 to 1949 by Murphy Anderson, from 1949 to 1959 by Leonard Dworkins, and from 1951 to 1958 by Yager. Finally, George Tuska took over both the Sunday and the daily strips. He was still bringing life to Buck's brigade when the two strips were "retired"; the Sunday adventure ended on June 13, 1965, and the daily Buck on June 8, 1967.

But Buck Rogers' influence on audiences was not confined to his comic strip fame. The futuristic hero succeeded in astounding his audiences via his appearances on the silver screen and the video and radio airwaves. In fact, thanks to reruns and cinema retrospectives, Buck is still taking new young fans soaring far above the surface of Earth, year after year, in adventures that are four decades old.

Buck's initial appearance in movie theaters across the nation occurred in 1939 via the Universal serial Buck Rogers.

John Dille and Phil Nowlan, however, began planning the idea for a film series as far back as 1931. Apparently, the first time Buck Rogers ever hit the screen was in a movie short prepared for department stores by the Action Film Company of Chicago under the direction of Dr. Harlan Tarbell. This short was mentioned, and three stills were shown, in the June 1936 issue of Toys and Novelties magazine. According to James Stark of Wheeling, Illinois, who produced the six popular balsa wood Buck Rogers rocketship model kits under the sponsorship of Dille, he personally constructed a fleet of rocket miniatures for the short. The film premiered in 1934 at the Buck Rogers in the 25th Century exhibition at the Chicago World's Fair. The program also included a "live drama" in which John Dille's oldest son, John Jr., played the part of Buck.

Still, Dille and Nowlan yearned for a bigscreen version of their hero. They had already succeeded in shaking the radio world with a pioneering space-adventure serial, and wished to approach Hollywood in the same earthshattering manner. The Buck Rogers radio show premiered at 7:15 p.m. on November 7, 1932, on CBS stations WCBS (New York), WGR (Buffalo), WNAC (Boston), WHK (Cleveland) and CKOK (Detroit-Windsor). Its success was immediate, quickly garnering over 58,000 listeners on over 23 radio stations across the country...as far west as San Antonio, Texas!

Dille and Nowlan worked feverishly for a movie deal. As far back as 1933 Dille had the amazing foresight to suggest that, if Hollywood was to produce a Rogers film, Buster Crabbe would be excellent for the title role, in that "Crabbe has got a better physique than Johnny Weissmuller in Tarzan."

Alas, by the time Buck Rogers did appear in 1939, it was not a historic first in terms of cinema. A major spin-off of the Rogers space-adventure theme, Flash Gordon had already made its mark in terms of serial space operas. The Universal serials Flash Gordon (1936) and Flash Gordon's Trip To Mars (1938) actually paved the way for Buck's celluloid entrance. Following Rogers' lone movie, Flash would again emerge victorious in 1940's Flash Gordon Conquers the Universe.

When Buck did eventually make it to movie theaters, however, it was—as Dille had predicted—former law student and Olympic swimmer Larry "Buster" Crabbe who starred. He had already proven himself a box-office draw as the intrepid Flash Gordon. Apparently, Crabbe's double duty in both serials didn't bother the Saturday matinee crowds (although it may have made a few Buck purists wince).

Norman S. Hall and Ray Trampe's screenplay tampered with the Rogers legend a bit, most notably in his time-traveling origins. On the screen, Buck and his young



1930s ad for Buck Rogers ship models.

pal Buddy (Jackie Moran) were not the victims of a cave-in. They were sent into a state of suspended animation due to a dose of Nirvano gas emitted from their disabled dirigible downed in the alpine region.

Directed by Ford Bebe and Ralph De-Lacy, the serial starred Constance Moore as Wilma, C. Montague Shaw as Dr. Huer, Anthony Warde as Killer Kane and Philson Ahn as Prince Tallen of Saturn. The serial, which retained its popularity as a cliff-hanger for over a decade, was edited into full-length motion-picture form in 1953, redubbed *Planet Outlaws* by Goodwill Pictures. In 1965 it was released for a second time as *Destination Saturn*.

Still alive and well via repeated TV showings, the *Buck Rogers* serial stands as a primitive but thoroughly enjoyable excursion into special-effects-laden screen SF. Costing \$189,000, *Buck* took six weeks of shooting at California's Red Rock Canyon in the Mojave Desert for the Saturn cave entrance and exterior scenes. Interiors were shot on Universal's back lot. Miniature models, about 10 inches long, served as spaceships. Billows of smoke were used to simulate jet exhaust. In-the-air movement was provided by both sliding wire rigs and moving backgrounds rotated on drums.

Ray gun "zaps" were provided by scratch marks etched onto the film emulsion itself, giving a jagged, lightning-bolt effect on the screen. While most of the effects were safely concocted, a few proved a bit dangerous on the set with several "flying men" being grounded unintentionally by snapping piano wire hoists. Star Buster Crabbe recalls the zany times on the set, but adds, "There were no broken necks, bones or anything like that."

Now residing in Arizona as a successful stockbroker and pitchman for Buster Crabbe swimming pools, the king of the SF serials recalls that a lot of hard work was put into the making of Buck Rogers both by the cast and crew of the film and the front office at Universal Pictures, whose job it was to ballyhoo the space adventure...and ballyhoo it they did, through massive publicity campaigns. "Just because it was a serial," Crabbe points out, "was no reason why the studio shouldn't have publicized it. The serials made more money for the studios than a lot of their feature films."

Despite Buck's popularity, however, there were no sequels. Yet there were three Flash Gordon epics filmed. Why was Buck accorded such shoddy treatment by Universal? "It was really very simple," Crabbe says. "After Buck, there was a toss-up as to whether to make a sequel or not. Since Universal had more sets on hand for Flash Gordon, we decided on another Flash—and made a quickie in about five weeks."

Having played both legendary comic strip characters on the screen, Crabbe is in the unique position of being able to compare and contrast their celluloid effect on the public. "I don't think Buck was as successful as Flash because the novelty just wasn't there any more," he surmises. "I'd

always thought of *Buck* as being pretty much of a steal from *Flash*. Now I realize that it was the other way around. Buck Rogers was the original. He was the first. He beat Flash as the first space comic strip and, later, as the first space radio show."

While Buck may not have made a momentous impression on the movie moguls in Hollywood, he certainly bowled over the country through a wave of merchandising during the '30s. Just the thought of owning the toy XZ-31 Rocket Pistol had 2,000 people lined up outside of New York's Macy's on the first day of its sale, November 17, 1934. On this day, yet another phase of Buck Rogers-mania was born...the great marketing putsch of the 25th century. Well over 100 different Buck Rogers items would soon hit the stores, sparking an SF toy fever that was not to be witnessed again until the days of Star Wars merchandising, some 43 years later. (For a complete review of some of the truly ingenious Buck Rogers products, find a copy of Robert Lesser's book: A Celebration of Comic Art and Memorabilia. Lasser is a comic fan who owns what is probably the biggest collection of Buck Rogers paraphanalia in the world.)

Last year, NBC-TV and Universal Studios announced the creation of yet another Buck Rogers TV show; a three-part mini-series starring Gil Gerard and Henry Silva and produced by Glen (Galactica) Larson. Recently, however, the series was scrapped, and the initial two-hour telefilm is now due to be released theatrically this spring in movie houses from coast to coast. Buck's 50th Anniversary will be given a widescreen celebration.

On the screen and in the hearts of millions, Buck Rogers lives.

The Legacy

Aside from being a top-flight comic strip hero, Buck Rogers has always been an unofficial spokesman for the world of modern science. Since his inception, Buck has always fulfilled the dualistic role of hero and educator. The space opera/science fact connection was fostered by original author Nowlan, a man who did his best to popularize science for his young readership by working fact into fiction.

For example, in Sunday strip #83, which appeared in 1931, Nowlan illustrated the Lorentz-Fitzgerald Law of Contraction by showing its effect on Buddy and Alura as the Alpha-Centuri prison ship they are held captive aboard approaches the speed of light. Hendrik Antoon Lorentz, the famous Dutch physicist, died on February 4, 1928. More than likely, Nowlan clipped the scientist's obituary and filed it away for future reference.

Perhaps the most unique of all of Buck's adventures occurred in 1936, in Sunday strips #335 to 370, wherein Buck and Huer foil the attempted theft of Mars by the in-Beta Lyrae. As it turned out, they were captured and teleported 1,600 light-years to the binary star system. In the confusion of their habitants of a planetary system orbiting

subsequent escape, Buck is teleported back to our Solar System but lands on a moon of Pluto rather than Mars. No mean feat, considering that Pluto's moon was only officially discovered by astronomers last summer!

Buck's link with science fact was solidified in 1938 when he became part of the vocabulary at the Massachusetts Institute of Technology and the California Institute of Technology. Dr. Jerome Hunsaker, head of the Guggenheim Aeronautical Laboratory at MIT, told Dr. Theodore von Karman, the renowned CalTech aerodynamicist, that he could take the "Buck Rogers job" of developing rocket-assisted take-off units for aircraft after Hunsaker had chosen another U.S. Army Air Corps project to work on, that of developing a deicing method for aircraft windshields.

The Airpost Journal of December 1941 continued to pay homage to Buck when it stated that, "Buck Rogers will have to take over in the 25th century," in an article on rocket mail of the future. "Space Medics Reject Buck Rogers Uniforms," announced the Washington Evening Star for January 22, 1959. Science's love affair with Buck, however, was clearly two sided, with the comic strip offering daily glimpses of scientific things to come.

Many of the prophecies in the strips were either technologically inevitable or had already been foreseen by others: the portable radio, moving sidewalks, synthetic food, various television devices, including TV-guided missiles or rockets, ultraviolet photography, robots, spacecraft docking, Polaroid cameras, monorails, lie detectors, automation, etc.

Perhaps the most famous of the scientific prognostications associated with Buck Rogers, other than rocketships, were the personal flying belts and disintegrators. In a manner, both have become realities. Pioneered by Bell Aerosystems engineer Wendell F. Moore, the rocket flying belt was first successfully demonstrated on April 20, 1961, at Niagara Falls Airport. Ironically, the test site was only miles away from the city of Niagara, the town that Phil Nowlan and John Dille had chosen as the capital of Earth in the 25th century.

The disintegrators first appeared in 1935 as the most beloved of the *Buck Rogers* toys. They have become, for millions, the very symbols of the 25th century. The sight of a pair of them in the *Buck Rogers* exhibit case in the National Air and Space Museum's Rocketry and Spaceflight Gallery never fails to elicit feelings of nostalgia from old-time Buck enthusiasts.

Today, however, with the development of high-energy laser devices, an actual disintegrator seems to be closer to the threshold of technical feasibility than Buck could ever have dreamed.

"The Buck Rogers Gun" read the boldfaced type of the July 25, 1977, Newsweek article on the new laser approach to a

MIE OF THE ART

"Capricorn One": The Four-Dollar Comic Book

cussing implications—we'll continue to note implications in films as they come up—but let's take up a new term now: fusion—not the kind that can be used to generate large amounts of clean electric power, but another kind of fusion altogether.

When you watch a motion-picture or television image, you are not really watching a moving picture; you are watching a rapidly progressing series of stills. The motion is only an illusion that occurs in the mind when all the separate pieces blend together to create a semblance of a smoothly flowing unity. The process is called fusion. It occurs primarily when information is being presented at a rate faster than the eye and mind can assimilate. If there are not enough pieces of information, or they are being presented too slowly—say, at a rate that falls below the point of maximum assimilation—then there is no fusion of information. Instead, we see only a series of stills, jerkily progressing from one pose to the next. Saturday morning animation is usually so cheaply produced that it exists on the threshold of visual fusion, and it doesn't take a particularly astute observer to see that the motion is not smooth. When a character turns his/her head, it strobes that is, it seems to jerk. The fusion is incomplete.

But there's still another kind of fusion—
it occurs on a higher level of perception, and
it is the kind of fusion that creates the illusion that a motion picture is also a story experience. It's the kind of fusion that determines whether a movie succeeds or fails.

Just as the various still images must be presented in a way that creates the illusion of motion, so must the various "motion experiences" blend together to create the illusion of process—that is, that something is happening: a story.

Here are the fragments: all the different camera angles, the sets, the costumes, the stunts, the special effects, the dialogue, the lighting, the makeup, the music, the sound effects and even the way all the different pieces of film are edited together. If all these different pieces work together, supporting each other, occurring at a rate just a little

faster than you can assimilate them as fragments, then they blend together, looking like they are all parts of a connected whole—the story experience.

And this is really the essence of motionpicture directing—the skill at creating a fusion of elements. It does not matter whether a director understands the theoretical aspects of fusion or not, so long as he is a master of the practical considerations—because ultimately, the success or failure of his film will be determined by how well all the different pieces blend together to create the illusion of a whole. If this kind of film fusion occurs for the watcher, then he ceases to exist inside his own head—only the process of the movie remains, filling his eyes and ears with experience so complete that it overwhelms even his knowledge that it is only an illusion. He sits in the theater, an entranced servant to the director's skill at evoking experience. On the soundstage, the director has looked through the process of production to see how he wants each individual piece to fit into the total effect; in the theater, it occurs as fusion.

If this fusion of experience does not occur, the viewer can only sit there waiting for it to happen, thinking, "What a lousy movie."

And this brings me, at last, to Capricorn One. Which didn't seem to have any fusion at all.

But we'll get to that in a minute. It's for other reasons—mostly philosophical ones—that this picture is despicable.

The premise is a simple one: the highest officials of NASA realize that the agency will not be able to fulfill its commitment to execute a manned mission to Mars on schedule—so they decide to fake it under a cloak of secrecy; they blackmail their three astronauts into cooperating by threatening to kill their families if they don't.

There is a lot to dislike here.

To start with, scientific inaccuracies abound—why are these fellows using a lunar lander for a Martian mission?!! And when these guys are pretending to be on Mars and radioing back to Earth, how come they aren't faking a time-delay?!! Do they think the public is so dumb that they won't notice a little violation of the laws of



physics?!! There are too many more errors of the same kind—stupid errors. These filmmakers haven't done their homework, they haven't checked even the simplest of facts and they don't even know what they're trying to simulate!

That this is a big-budget, sleazy exploitation is of little consequence; it's not the first, it won't be the last—but it's what this exploitation says about *us* and our world that makes it so loathesome.

Capricorn One is anti-science. It belittles and demeans the highest aspirations of the mind: it mocks our dreams. It devalues the integrity of science for the sake of gut-level adventurism. The damnable ignorance of this picture is a blindness to the basic scientific attitude itself—but these people don't care about science; their picture comes right out and says, "Science is a hoax! Even those who dream the dream are liars." And they use the language of science to say it!!

If nothing else, Capricorn One is a libel against the good men and women of NASA.

Those of us who grew up with the dream, who stood out in our backyards on quiet summer nights, gazing up at the distant stars and wondering, hoping—those of us

A Column by David Gerrold





Top: O.J. Simpson and the other two Capricorn One mission astronauts are shown the fake landing site set. After painstakingly reproducing the Martian terrain, the NASA conspirators forget about the time lag in interplanetary communications but nobody notices. Above: that's right, the plane never did get off the ground.

who dreamed of spaceships and other worlds and perhaps even someday being the first person on the Moon—those of us who knew it would happen someday, despite the short-sightedness of those who laughed those of us who lived in our imaginations and grew up to be scientists and astronauts and even science-fiction writers—we feel betrayed! The makers of Capricorn One have taken our dream girl and portrayed her as a prostitute—because they think the chimpanzees will accept anything if it's presented in 70mm and Dolby stereo.

Phooey!

I say it's spinach and I say to hell with it. Not that the notion that a space mission can be faked is not a worthwhile subject for a story. James Gunn, I think it was, did a masterpiece of a tale almost two decades ago on just that subject, but in his tale, the motivations of his characters were honorable; they wanted to inspire us into space by demonstrating that it was not impossible to achieve it. (Was the story entitled "Alexander the Bait"? Anyone out there know?) He recognized that space was a dream and he wrote about what human beings will do to push their dreams just a little bit farther toward reality. He wrote about people aspiring to be better than they are. And that's what is so detestable about the Sir Lew Grade organization—their films are about people without dreams. These people don't transcend adversity, they don't rise above it or even meet it with courage; and they don't even have the saving grace of a moral point of view—so who cares? And not just in Capricorn One, but in both their previous films, Voyage of the Damned and

again) these people are telling us that dreams are only dust and ashes and not at all worth cherishing and preserving and carefully nurturing toward fruition. And that's bullshit! Dreams are the stuff that make life worth living in the first place—they give us direction, they give meaning to our moments. There is this about dreamers—no matter how low a dreamer may sink, no matter how despicable and corrupted he may become, he still never betrays his own dreams. Only those who have never had dreams, never experienced them as missions larger in meaning than their own individual lives, can conceive of their betrayal, because those who have no integrity of noble purpose within themselves cannot conceive of it in others.

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Capricorn One turns the men and women of the space program into villains. It asks us, a science-fiction audience, to cheer against our own aspirations. Bullshit again! I won't have it. You can't take a dump on my dreams and ask me to applaud you. Capricorn One devalues the dream of space and doesn't much offer any alternative dreams in return. It is a film that offers emotional rewards only to those who feed on the failure of others—because that's the kind of hero Elliot Gould plays.

Phooey! And phooey again!

There. Now that I've gotten all that out of my system (which I hope you understand is merely the visceral reaction of a cranky old man who spent his formative years reading too much science fiction) I can now move on to tell you another reason why you can dislike *Capricorn One*.

It is clumsily made.

It doesn't work. At least, not as a movie. It wasn't until I was halfway through the film (and hating every moment of it) that I realized that this was not a movie at all that I was watching.

It was a comic book.

A very big one, a very pretty one, a very expensive one, but still a comic book. (Do not take this as an insult, comics fans—comics are an art form in their own right and I do not use the term as one of opprobrium; don't write angry letters.) Comic books have their own special rules for storytelling, characterization and visualization, and Capricorn One follows all of the comic book rules right down the line. It is not a movie, it only pretends to be one.

It is a comic book. The dialogue is comic book, the people are comic book, the relationships are comic book and all of the adventure scenes are comic book, two in particular: one when the two helicopters are chasing the crop-dusting plane, and the other when Elliot Gould's brakes fail him and his car careens madly through the city streets. In the latter sequence, the film was shot at a slower-than-real-time frame rate, so when it is projected the car seems to be moving much faster than it really was. This is a gimmick and it doesn't work as "movie" because the image "strobes" the visual cues of the auto's motion are different than if the film had been shot at realtime. There just isn't enough blurring of the images on the individual frames for the perceived speed to seem real, and as a result it looks a little uneven, like an old-time flickering silent film. Audiences who are sophisticated with film trickery will instantly recognize the gimmick as the gimmick it is; whether it is a conscious realization or unconscious, the brain still recognizes that one of the elements in the film is inaccurate; it belies the momentary reality of the rest and momentarily breaks the illusion. Story fusion collapses because this is recognizably a piece of comic book gimmickry and not movie magic.

But by that time, it didn't matter. Once I

realized that I was seeing a comic book, all my objections to this film as a film fell away from me as easily as the weight of years of sinning falls off a man who has been redeemed by God. No longer were my intellectual sensibilities being insulted. No longer were my cherished dreams being pissed upon. No longer even were the basic skills and integrities of filmmaking being prostituted. This simply wasn't a movie, was never intended as a movie, and was only being shown in theaters because it was too hard to rig newsstands for Dolby stereo and 70mm projection.

So it was with clear conscience and temporarily suspended critical faculties that I could sit there through all the silly adventure scenes and, if nothing else, admire the skill of the stunt drivers and stunt pilots involved. The wild car chase was fun as a comic book thrill, likewise the aerial acrobatics. I didn't have to care about the characters—they didn't exist, never did, never would. I was watching only a bunch of disparate fragments. They could cut from a long shot of the two planes to a closeup of the backs of the heads of the two stunt pilots in the biplane, one wearing Telly Savalas' pilot's cap, the other wearing an Elliot Gould frizzy-wig, while the chopper pretended to buzz them, and it didn't even bother me that I automatically knew the shot had been staged for effect and our real heroes hadn't been within miles of the production crew that day. It was just another piece the director filmed to fit into the film in the hopes that you would think it really was Telly and Elly who were being menaced. And when they did show a front view of our two actors, supposedly in the airplane, it was shot from such a low angle with nothing but blue sky above that it was obviously not taken while the craft was in the air. There was a wind machine just behind the camera blowing in their faces that's all—but it didn't matter, because this was just another piece of the comic book. And when the obviously miniature choppers slammed into the cliff, well that didn't matter either, because these shots weren't meant to be taken seriously in the first place; they were just what they looked like —well done pieces of comic book visualization. And when the whole thing was over and my friends were swearing up and down about the stupidity of the picture, I was able to smile and say, (albeit with slightly glazed expression), "I enjoyed it." Because I really did. It is the best comic book I have seen in a long time.

But it isn't science fiction and it isn't a movie. And while I don't mind paying four dollars for a good comic book, I sure as hell resent paying four dollars for a movie and being given a comic book instead.

Next time around, I'm going to say mostly nice things about *Heaven Can Wait*, which was almost as much fun as *Star Wars*, and after that, we'll chit-chat about *The Rocky Horror Picture Show* and decadence. If nothing more important comes up first....

(Donate blood this month!)

Saturday Morning Revolution

JASON OF STAR COMMAND



Jason of Star Command is Filmation's new action-adventure serial for TV. As a spin-off from Space Academy, the Star Command is not only a secret section of the Academy, but a secret section of the TV listings as well. Still, it sets a new high for Saturday morning SF.

By DAVID HUTCHISON

casts to its affiliates a dazzling sci-fi serial that is action-packed with quality special effects. This live-action series is reminiscent of the fantasy fun of the Buck Rogers and Flash Gordon serials of the 1930s, but enriched with modern film technology and color. The new serial, Jason of Star Command, is produced by Filmation and premiered this past fall. But you won't

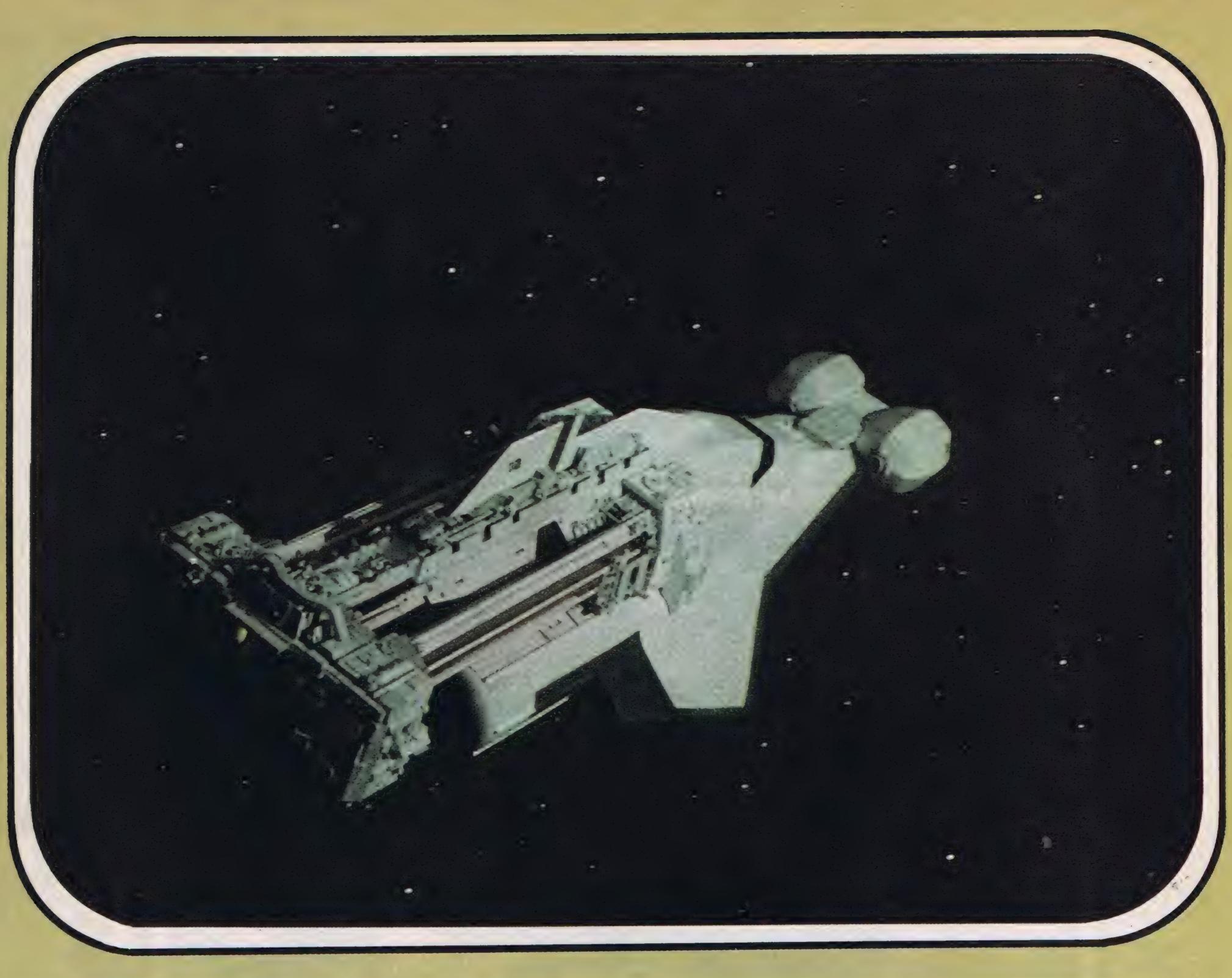
find it listed in TV Guide, nor in your local newspaper. The serial appears as a segment of a program entitled Tarzan and the Super 7, making Jason the only segment of liveaction adventure in an otherwise animated package.

Ostensibly a spin-off from Space Academy, Star Command is a secret section of the Academy, and Jason is one of its best agents. The series is written and designed in what Superman designer John Barry lovingly calls "pointed-shoulders science fic-

tion," in which the characters wear capes and tunics with the "pointed-shoulders look" and perform heroic or dastardly deeds in the best tradition of a genre that has long been a popular source of entertainment.

Filmation's Jason serial is unique on two counts. First, it is one of the few live-action adventure programs available on Saturday-morning TV. In the heyday of the 50s, Saturday morning was chock-a-block with adventure stories of every kind, from





Jason of Star Command

Regular Cast

JasonCraig LittlerNicoleSusan O'HanlinDragosSid HaigDr. ParsafootCharlie DellCommander CanarvinJames Doohan

Guest Stars

Allegra . . . Miriam Rosanne Katon
Bork Angelo Rositto
Matt Prentiss John Berwick
Captain Kidd Brendon Dillon
Queen Venassa . . . Julie Newmar

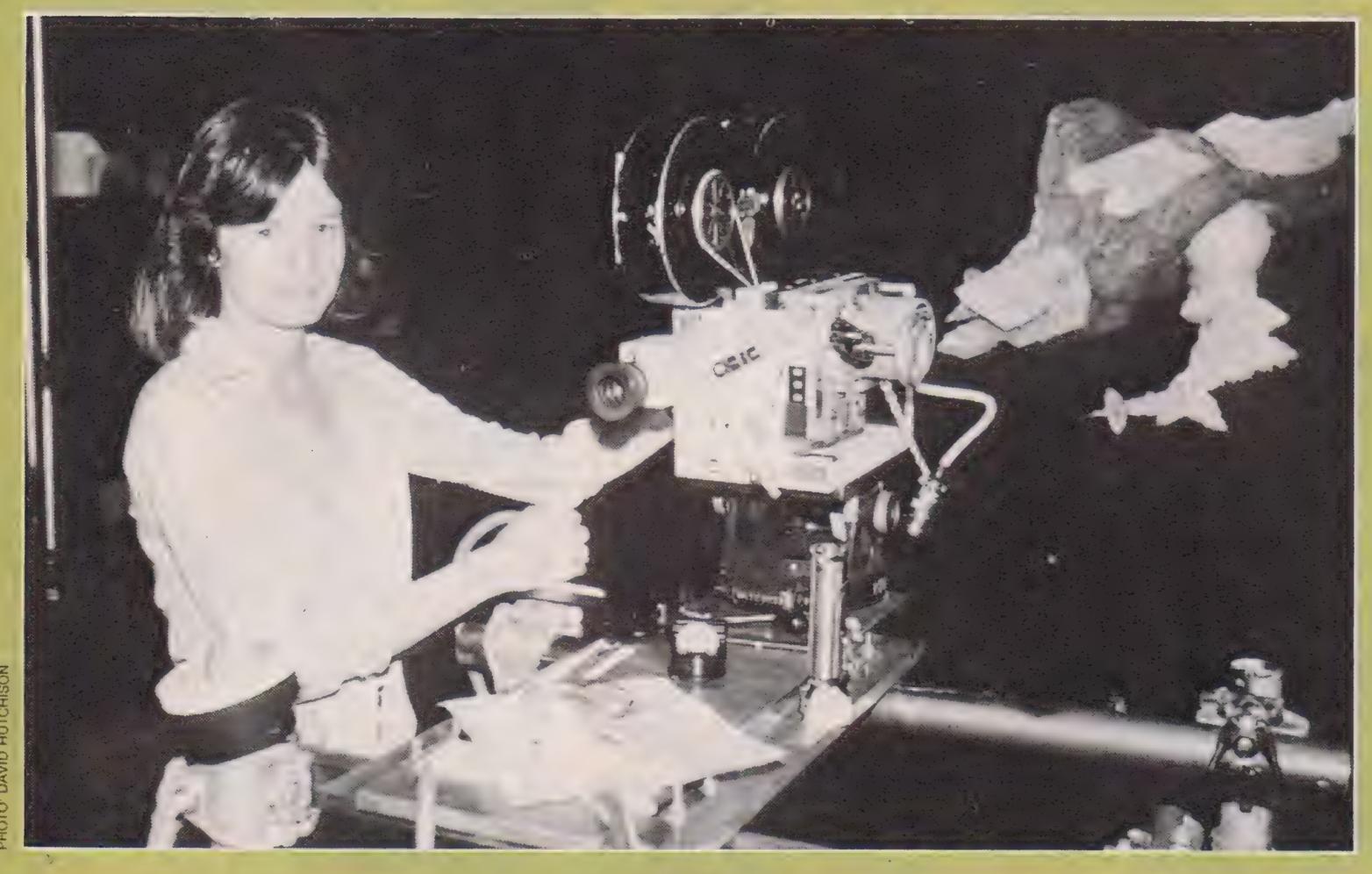
Production Staff

John Grusd, Paul Huston, Ease Owyeung

Stop-Motion Animation Jim Aupperle, Stephen Czerkas



Two episodes have made extensive use of model animation. "There are over 40 animation cuts in those two segments of Jason," says Jim Aupperle, "which is as much as a feature movie might have."



Far left: The Starfire, Jason's carefully detailed scout ship. Far left below: Jason in battle with the creature as seen in episodes six and thirteen. Left: Diana Wooten sets up a shot with the motion-control system which produces the black-and-white hold-back masks on one pass and the color shot of Drago's empire on a second pass. The mask is then bipacked with the color negative when the star field is added. Below: Stephen Czerkas checks the movement of his creature frame by frame with standard callibration guides.

Captain Midnight to Rin-Tin-Tin...from Sky King to Fury. But the Saturday-morning censors clamped down on "TV violence," establishing a code of rules under which adventure-action series became very difficult, if not nearly impossible, to write. Hence, the current Saturday-morning proliferation of limited animation series. Filmation has consistently made an effort to return to the live-action adventure format. Jason is unique for the sheer quantity and quality of its special effects. Jason utilizes motion-control cameras and models in much the same way Star Wars did, but Jason pulls it off on a weekly basis. There are spaceships crossing planets and star fields, animation effects, explosions—effects that usually require traveling mattes and generally many weeks of tedious optical compositing. The Filmation people do their own traveling mattes, in camera—and in one day!

Two episodes have made use of model animation... extensive use. "There are over 40 animation cuts, total, in those two segments of Jason," says Jim Aupperle, who did the miniature front-projection compositing, "which is as much as many feature movies might have."

The episode entitled "Planet of the Lost" serves as a good example of the show's excellence. Jason was protecting Allegra from an enormous insectoid crea-



Jason and explode in a fury of flame. (The sequence is pictured on this spread.) Producer Lou Scheimer explains how the unusual effect was accomplished. "We shot the live action with explosive squibs on the set. Later, the explosion point served as a cue for the front-projection animator who was articulating the model. The creature's

tongue would be timed frame by frame, of course, to strike that point in time with the explosion." So you have a model creature initiating an action that was filmed live.

None of this is new, certainly. But, it is very rare for television and revolutionary for Saturday-morning programming. Filmation is to be congratulated for stretching the Saturday-morning standard.



MACE REPORT



Edited By DAVID HIRSCH

The "Space: 1999" Movie

Since the "Space Report" column began in STARLOG #15 readers have written in suggesting the production of a Space: 1999 feature film. Well, here it is, Destination: Moonbase Alpha. While I cannot report that Destination: Moonbase Alpha is the film you have all dreamed about, it does indeed present a number of benefits to the audience that enjoys watching Space: 1999 week after week.

Edited from the two-part episode, "The Bringers of Wonder." Destination: Moonbase Alpha has already opened in cinemas throughout Europe and will be available to American television starting Sept. '79.

Making a feature film out of a multi-episode television series has been common
practice in the industry for quite some time.
Episodes of The Man from U.N.C.L.E.,
The Saint, Secret Agent and The Six Million
Dollar Man make their appearances as films
now and again on television. In fact, audiences that live in areas that no longer carry
Space: 1999 on their local television stations
will most likely catch Destination: Moonbase Alpha sometime in the near future.

Destination: Moonbase Alpha may not be the ultimate Space: 1999 movie, but it's a step in the right direction.

—Gerry Anderson

Destination: Moonbase Alpha

 Sandstrom ... Earl Robinson
Henry ... Robert Sheedy
Peter Rockwell ... Nicholas Young
Lizard Animal ... Albin Pahernik

A Gerry Anderson Production distributed by ITC Entertainment.

From top to bottom:

Carter prepares to insert the fusion rod to detonate the Waste Dome. Koenig's Eagle over the Waste Domes. Guido and Tony Verdeschi are reunited. Maya becomes a lizard creature. Maya is not especially happy with Louisa's interest in Tony. The aliens control their minds so Alan sees humans, not monsters. Under alien control, Carter attempts to prevent Koenig from stopping the detonation of the Waste Domes. The alien monsters have Alan believing that he is back on Earth. Space: 1999's Eagle Ten spacecraft. (left) The poster art for theatrical release by Chantrell.

Readers are invited to send their questions and topic ideas to Gerry in care of STARLOG. Although personal replies, requests for materials, etc., are impossible, letters of general interest will be selected for printing in future issues.

Gerry Anderson's Space Report STARLOG Magazine 475 Park Avenue South, 8th Floor New York, NY 10016

Next Issue:
Gerry Anderson's
STARCRUISER ONE

STATE OF STA

A Day in the Life of a Movie Extra

ow many crew members are there aboard the U.S.S. Enterprise? The answer is one that every Star Trek trivia expert can instantly recall: 430. In the TV series, handfuls of "extras" walked along corridors, trying to create the atmosphere of a busy ship. But how do you fill a three-story recreation deck covering an entire Star Trek—The Motion Picture soundstage with only a handful of people and make it look like the ship's full complement of crew?

In STARLOG #18 I reported that Hollywood was a union town and that there was virtually no chance for fans to appear as extras, since we are bound by contracts between the unions and the studio. On October 16, an exception was made to the rule when we needed to find 300 people who could fit into our wardrobe and appear in

the Rec Deck sequence. With Screen Extras Guild unable to supply enough people, Gene Roddenberry seized this opportunity to thank the fans for their support by making it an open call, inviting them to try out for the remaining numbers needed.

With only two weeks until shooting, I quickly contacted Bjo Trimble, Richard Arnold, David Gerrold and Fred Bronson, all close friends with fandom contacts in the L.A. area. We would need several hundred fans in a week, from whom the final selection would be made. All had to meet specific requirements: between the ages of 20 and 40; men ranging in height from 5'8" and 6'2", sizes 40-42; women had to be between 5'6" and 5'8", wearing sizes 8-10.

By Friday we had over 250 fans, many more than the number needed, assembled along the studio entrance on Gower Street. But this was a once-in-a-lifetime experience for everyone, and we let them all try out. We even had a few people who heard about it through some grapevine back east and spent their own money to fly out. Who could blame them? Bill Hickey arrived from Philadelphia, Steve Hersh from New York and Louise Stange, president of the Leonard Nimoy Association of Fans, who learned of the call while vacationing in the L.A. area and changed her return ticket to Ohio so she could stay on and be in the scene.

All the fans (termed "waivers" since they were non-union) were brought into the studio and seated in the bleachers on Stage 27. Then small groups of them were lined up ala A Chorus Line and director Robert Wise made his selections. A far cry from the typical cattle call—even those who were not chosen remained to see which of their friends would make it, applauding as each group was completed. At the end of the evening, 125 fans were given their costumefitting appointments while everyone, regardless of whether or not they were selected, received a personal thank-you letter from Gene.

On the historic day, this intrepid reporter was on the set in costume, pencil poised, ready to record the events for STARLOG readers. (I also wouldn't have missed this opportunity for all the credits in the Universe!)

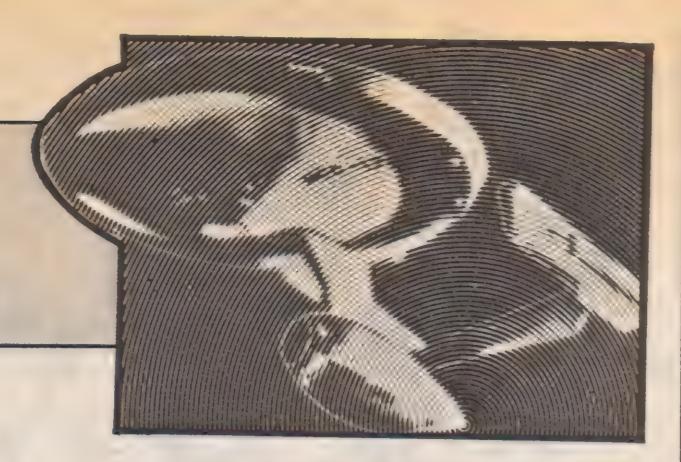
From my personal log:

7:00 a.m. Check in on Stage 2 where the women's wardrobe is being held for us. Two people help me into my white jumpsuit. It feels like it was sprayed on. Well, it looks great, so who cares? At least the cute shoes attached to the costume legs feel comfortable.

8:00 a.m. Over on Stage 17 where the men are being dressed, there are numerous tables set up for hairstyling, alien makeup application, etc. All women on the Enterprise must wear their hair in a severe, militaristic style, and I reluctantly submit. Not only is my long hair pinned up, but something that feels like spray starch is applied to keep the curls down flat. I look like Alfalfa from Our Gang comedies, minus the cowlick. How will my friends recognize me on the screen?

8:30 a.m. I wander over to Stage 10.

Front row, from left: Bjo Trimble, Grace Whitney, Susan Sackett, Louise Strange, Susan Stephenson. David Gerrold is to Whitney's right.



Fred Phillips and others are making up the regular cast. Fred's assistant, Charles Schram, has a few minutes and I get the full makeup treatment, while Fred is busy making up Bill Shatner in the next chair. I close my eyes and pretend I'm a big movie star.

9:00 a.m. Rosanna Attias (secretary to the associate producer) and I check in on Stage 8, watching the setup for today's shooting. Most of the extras and fans are still being held on the wardrobe stages until they're needed. Second Assistant Director Doug Wise asks Rosanna, Kendra Ryan, Louise Stange and me to stand in position while they check lighting and camera angles. There are four cameras being used this time, rather than the usual one, plus a fifth camera recording this for a behind-the-scenes documentary. I close my eyes and pretend I'm an officer on the Enterprise.

9:30 a.m. Everyone assembles on stage and is personally placed by Robert Wise. I am put up on the balcony, in front of a "window" at the rear of the set. Four of us are in front of each window, behind which are the nacelles of the starship, the drydock and twinkling stars against the blackness of space. A lady from wardrobe changes my cute matching shoes to clumsy white boots which make walking difficult.

Bob Wise shows us slides of the scene we will be filming. These are artists' drawings, since we won't have the actual opticals from Robert Abel & Associates for several months. We learn that three Klingon ships are being destroyed by an unknown intruder. "It's incredible," intones Wise. "You've never seen anything like it!" Thus our motivation for the scene. We also get some acting instruction from the first assistant director, Danny McCauley: "Don't ever look directly at a camera. Look up at the screen." With the hot bright lights glaring in our faces, it's hard to look at anything.

11:30 a.m. We still haven't taken the first shot, and now the furniture needs to be removed since it's much too crowded on the set. Lunch is called. I head for the bathroom with a partner. Going to the bathroom is a two-person job; it's impossible to get in and out of the costume alone. I try not to drink much liquid.

Lunch is served on Stage 18 to nearly 400 people including all the extras, waivers and crew. The surprisingly good catering includes steak, mashed potatoes, peas, salads, watermelon, ice cream and milk.

1:15 p.m. The first shot is finally taken. Patiently, Bob Wise explains, as he would over and over again all afternoon, "Now

you see the Klingon ships being blown up—you're amazed, turn to your friends, what could that be? Let's have some buzzing."
We all turn to our friends and buzz.

2:00 p.m. The cast assembles in their places down in front of the group. Bill Shatner is greeted by applause. He's our captain; we all have confidence in him. He can get us through this! He tells us, "That's all we know about it, except that it's now 2.2 days from Earth." Then, a signal from Starfleet. There's another picture on the viewscreen. We all pretend we see it (it will be burned in later). Our director tells us, "Now you see the enemy strike again. It's awesome. You're horrified! You can't believe it! React!" I react. My costume is so tight it feels like a tourniquet, my booted feet feel like two concrete blocks, the heat on the balcony is about 110°, and I welcome this opportunity to "buzz" to my neighbor as a chance to stretch.

We take a few breaks throughout the afternoon. I try to sit, but everytime I do, someone from wardrobe rushes over to warn me about soiling my white jumpsuit. I close my eyes and pretend I'm in Alaska, Antarctica, anywhere but here.

Bob Wise never loses his enthusiasm. I can understand why the cast say he's a wonderful director. I'm exhausted, but Bob's still telling us about this incredible thing we're seeing: buzz, buzz, react, react.

6:00 p.m. Everyone's told they may leave, except those of us up on the balcony. The four cameras are brought into position directly below us. We're going to have our closeups! I close my eyes, nearly fall asleep, but I try to pretend once again that I'm a big movie star. We do it all again, "Horror stricken, incredible." More buzzing and reacting. By this time I'm wishing the mysterious foe would blow up Soundstage 8, rather than Klingons. Finally, Bob says the sweetest words we've heard all day, "It's a wrap!"

As we stagger down from the balcony, I can't resist one more daydream. I close my eyes—and pretend it's Christmas 1979. Star Trek—The Motion Picture has just premiered. The audience is filing out of the theater, and everyone's talking about it. I overhear some of it: "I still can't get over it. Did you see the girl in the white jumpsuit in the third window on the Rec Deck balcony? Wasn't she something? What a performance! Terriffic buzzing and reacting! She'll get an Oscar!"

If only I don't end up on the cutting room floor!

FUTURE CONVENTIONS

Here is the latest listing of the upcoming conventions. If you have any questions about the cons listed, please send a self-addressed, stamped envelope to the address below the name of the con. As always, guests and features are subject to last-minute changes. Conventioneers, please note: to insure that your con is listed on our calendar, please send all pertinent information no later than 15 weeks prior to the event to: STARLOG Convention Calendar, 475 Park Ave. South, New York, NY 10016.

CHATTACON 4 (SF)

Chattanooga, TN Jan. 5-7, 1979
Chattacon 4
PO Box 21173

THE FANTASY SYMPOSIUM

Chattanooga, TN 37421

San Jose, CA Feb. 15-18, 1979
I.M.F.S.
994 Clubhouse Drive
Hayward, CA 94541

QUAKECON

San Francisco, CA Feb. 16-18, 1979
Quakecon
Box 9990,537 Jones

STAR TREK SPACE EXPO

San Francisco, CA 94102

New York, NY
Star Trek Space Expo

88 New Dorp Plaza
Staten Island, NY 10306

AUSTRALIAN STAR TREK CONVENTION

Sydney, Australia
Karen Lewis
PO Box 110
Rockdale NSW 2216
Australia

AGGIECON X

Texas A&M University March 29-April 1, 1979
AggieCon
Memorial Student Center
Box 5718
College Station, TX 77844

March 10-11, 1979

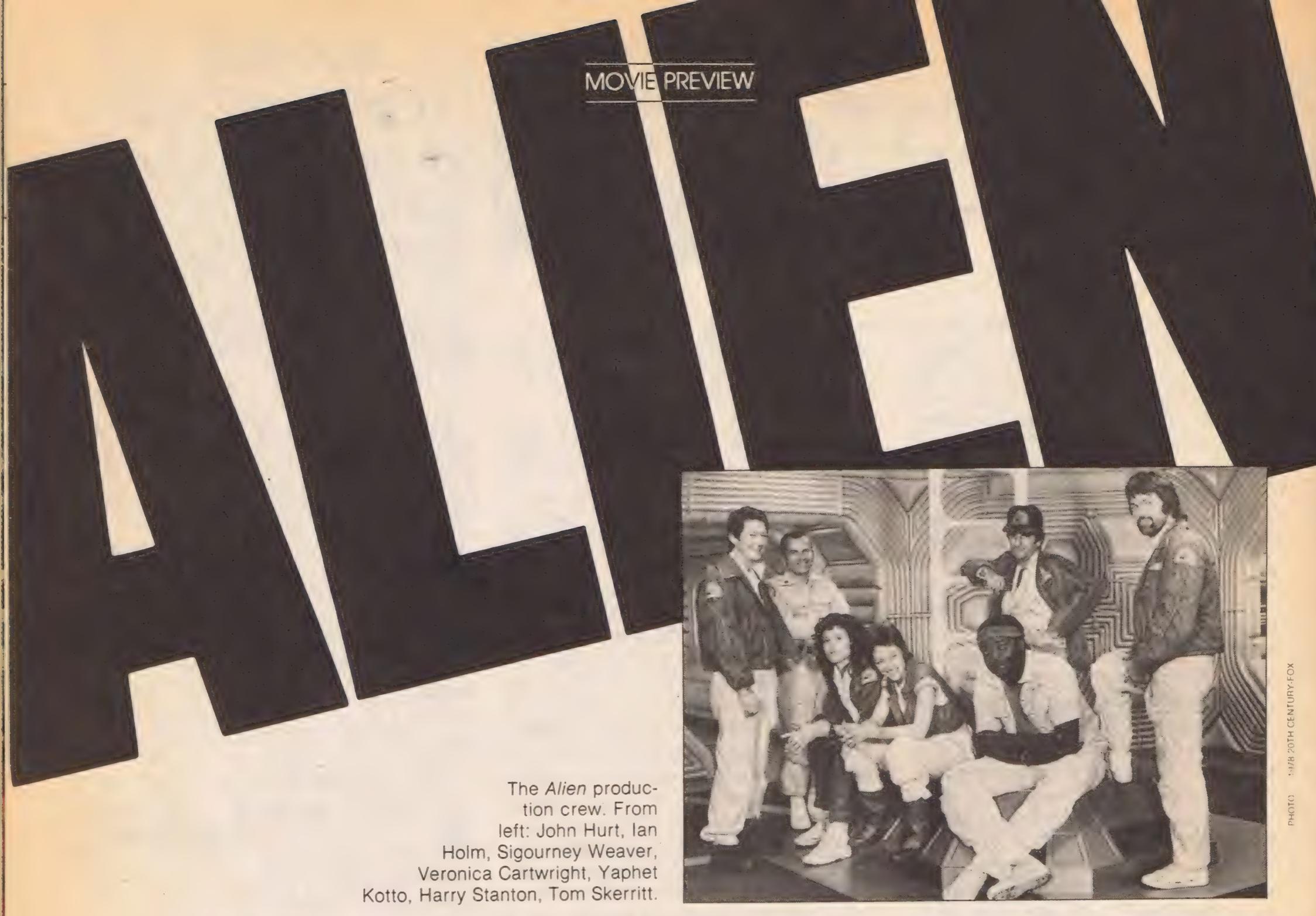
STAG/EMPATHY MIDI-CON (ST)

Leeds, England March 31-April 1, 1979
Janet Quarton
Star Trek Action Group
15 Letter Daill
Cairnbaan, Lochgilphead
Argyle, Scotland

SF, HORROR & FANTASY CON

Los Angeles, CA April 13-15, 1979
SF, Horror & Fantasy Con
PO Box 69157
Los Angeles, CA 90069

The STARLOG/FUTURE space art slide show, "Reaching For The Stars," is available to all conventions. Featuring a music score by Eric Wolfgang Korngold, the show generally accompanies a guest appearance by members of the staff. Convention organizers should contact Tom O'Steen to make arrangements.



By RICHARD MEYERS and PHIL EDWARDS

uring the past two years, sciencefiction film fans have been inundated by screen scenarios featuring a horde of amazingly friendly alien creatures. Chewbacca, the towering hirsute Wookie, fought on the side of his human counterparts in Star Wars. Close Encounters' outer-worldly visitors embraced all of humanity in an almost mystical meeting. Superman—The Movie, finds the stranded citizen from Krypton all set to save Earth from evil in this Christmas' blockbuster film. Next year, however, a new wrinkle in the benevolent alien personality will surface . . . a decidedly dangerous streak to be spotlighted in 20th Century-Fox's multimillion dollar production, Alien.

Dan O'Bannon, who both co-authored the film's screenplay and supervised visual concepts, describes the unique production's premise somewhat enigmatically. "What happens," he asks, "when you run into a highly sexual alien creature whose body is not compatible with a human's?"

O'Bannon, famous for his help in creating the cult classic *Dark Star* and the computer effects in *Star Wars*, pauses for a moment to let the full implications of his statement sink in. "In effect," he continues, "we have a cosmic encounter of an

entirely different kind going on in this picture. It enacts a very strange sort of love."
At this point, O'Bannon breaks into a slightly satanic grin . . a grin which casts a fairly fatalistic light on the movie's proposed "love story."

"It's really a combination of two classic film genres," Alien producer Gordon Carroll elaborates, "the gothic horror tale in which people are trapped in an isolated environment, plus the traditional science-fiction confrontation of man and the unknown terrors of space."

"This is nothing new," O'Bannon points out. "It harkens back to the 50s and movies like *The Thing, Them* and *Invasion of the Body Snatchers*. But this being the 70s and there being *Star Wars* and all the other movies, *Alien* has a definite 70s flavor." O'Bannon flashes his unsettling smile again and lapses into silence.

O'Bannon and the entire Alien production crew refuse to discuss the nuts and bolts of their mysterious film, no matter how much they are cajoled and begged. A trade paper, meanwhile, has reported that the crux of the plot concerns the plight of a rocketfull of intrepid astronauts being stalked by a creature who can change shape at will. O'Bannon will neither confirm nor deny this report, stating that "Gordon keeps saying that if any of it leaks out, it will be on TV next week!"

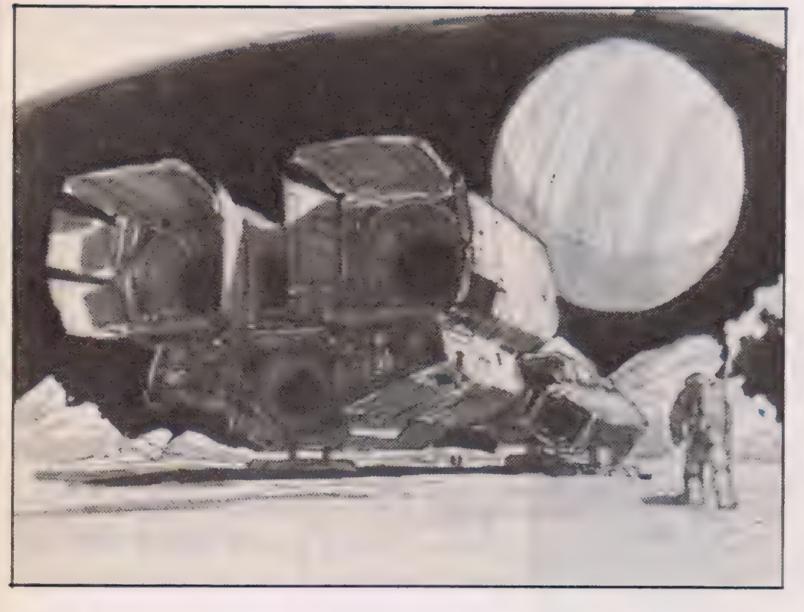
O'Bannon is more than happy, how-

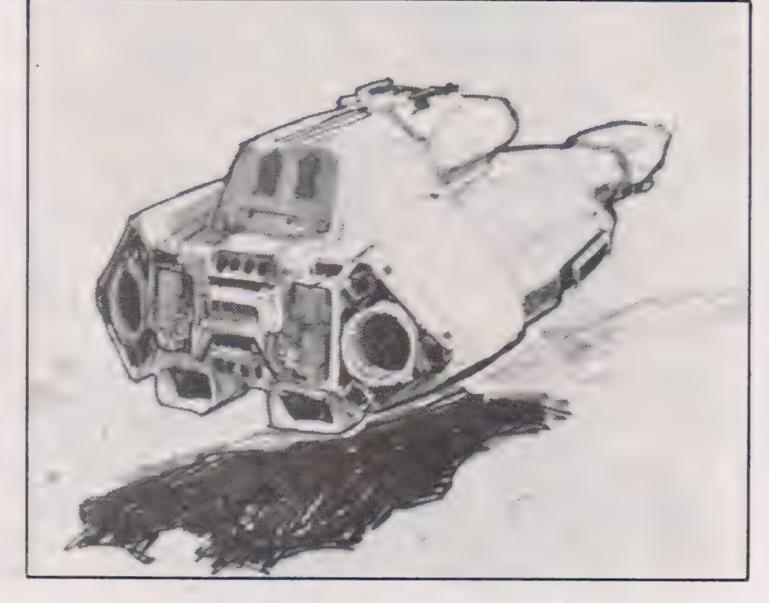
ever, to discuss the history of Alien, an admittedly spooky SF chiller known, in some circles, as the "science-fiction Jaws." "Originally," he begins, "the script by Ronald Shusett and myself was acquired by an entity known as Brandywine Production, which is composed of three men: Gordon Carroll, Walter Hill and David Guiler. From the beginning it was set up so that Hill would direct it. Then they took the script to Fox and that studio got very, very nervous ... before, during and after our deal. They thought it might be a little too gruesome after their Star Wars success. Actually, they're still nervous, but they're getting more enthusiastic."

Fueling their optimism is a production team that includes some of the finest artists, designers and SFX people in the genre. Among the internationally famous painters called in to fashion costumes, hardware and extraterrestrial concepts were Chris Foss, Moebius, Ron Cobb and the controversial rage of Europe, H. R. Giger. Also onboard the Alien bandwagon was Brian Johnson, world famous for his SFX work on Space: 1999 and who is currently helming effects for The Empire Strikes Back, the first Star Wars sequel.

Once the effects crew had been established, director Hill found himself unable to live up to his *Alien* line of duty because of schedule conflicts. The film's producers managed to circumvent a







Preproduction art for Alien as sketched by Ron Cobb and designed by O'Bannon. This was only preliminary work and the designs have most likely changed since these sketches were made. At top is a view of the bridge of the film's spacecraft, Nostromo. Left, a sketch of a space tug; right, the shuttlecraft, Narcissus.

postponement by immediately hiring Ridley Scott, a director acclaimed by critics for his award-winning *The Duellists*. The change of plans proved fruitful for the *Alien* team.

© 1978 20TH CENTURY-FOX

"I am very happy with Ridley," beams O'Bannon. "He has a really intense, florid visual imagination and he's reconceptualized my original lean, sparse look into something extremely rich in texture. And I'll tell you, Ridley really works hard. Ron Cobb says you have to put him to sleep at night with a mallet! If he had his way, Ridley would work 24 hours a day."

Scott's energy proved contagious, so by the time the *Alien* crew set up shop at England's Shepperton Studios, the entire production had been redesigned from scratch. Moebius handled the final costume design. Ron Cobb resketched the machinery. Giger turned in an incredible array of extraterrestrials, so diverse in nature that, by comparison, *Star Wars*' Cantina sequence looks like a P.T.A. luncheon. The biggest problem the *Alien* crew is now running into is taking Giger's out-of-this-world anatomies and transforming them into living, breathing creatures onscreen.

O'Bannon, now several months into production on Alien, will not let visitors on the set to see exactly how the crew is tackling the problem. He will divulge a few secrets, however. "It's all being done

mechanically in one way or another," he says. "We aren't going for any form of stop-motion animation. Producers just don't understand stop-motion, so they won't touch it with a fork, especially since Carlo Rimbaldi did that doughboy guy in CE3K. That pathetic bit of sub-audio animation! That doll! Now everybody's jumping up and down about how great his techniques are. Hopefully, our physical effects will be fairly simple. Nick Allder is handling the floor effects but the 'monster' is a special area of effects and there are secret people handling it."

Indeed, more than a third of Alien's budget is being spent on secret activities that will result, insists producer Carroll, in "the most remarkable effects ever seen."

"Nothing takes place on any real landscape," O'Bannon reports, "or on anything that really exists. It all takes place in or about the spacecraft *Nostromo*, the shuttlecraft *Narcissus*, an alien landscape and so forth. If you ask what percentage of *Alien* will be effects, I can say that 100 percent of this picture will be an effect, since I include set work."

With the entire film being built from the ground up, Alien will have more than its fair share of computer displays, miniatures and related SFX devices that will be extensively utilized. "I did some computer screens for Star Wars," O'Bannon comments, "but my most ambitious set of

displays will be in Alien. This time we're using a real computer. We're doing massive things with it, following Ron Cobb's designs. We're planning incredibly fantastic computer displays and projects around the ship. We'll do everything imaginable."

Imagination seems to be the key word for everyone involved on Alien. Shooting, which began late last summer, has been so successful thus far that the initially nervous 20th Century-Fox is gearing up its publicity machinery to give this "sci-fright" film a major push in the spring of '79. Theaters across the country are already being booked for a coast-to-coast May 25 preview, a date which Fox used two years ago to unleash their first fabulous SF hit of the seventies, Star Wars. Although Fox is still riding the crest of the Star Wars boom, they are quick to point out that Star Wars has about as much to do with Alien as Bambi does with Psycho.

Described appropriately as a science-fiction horror film, *Alien* may prove to be 1979's most unique offering. At this point, it's already proving to be a one-of-a-kind prospect for its cast and crew. "We're having a few problems with the censor over *certain* scenes," O'Bannon chuckles devilishly. "Of course, those are the very ones I just can't tell you about ... except to say that they will be the highlight of the entire movie!"

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Wild About Mork

It's not easy playing second fiddle to an alien zany.

Just ask Pam Dawber who puts up with wild

Morkisms both onstage and off.



By JENNIE LALUME

few months ago, not many TV insiders paid much attention to a show dubbed Mork and Mindy. The premise, it seemed, was just too absurd for most. Mork, an alien from the planet Ork, lands

on Earth, coming to rest in the humble abode of college-bound human Mindy. He's quite amazing. She's quite amazed. Old hat, right? Something straight out of My Favorite Martian or Visit to a Small Planet.

These days, the show's former detractors are swallowing their sneers. The chemistry between madcap Robin Williams as zany Mork and ever-bemused Pamela Dawber as exasperated Mindy has taken the country by storm. *Mork and Mindy* is currently the highest rated show to debut during the 1978-79 season. It has never fallen out of the Neilson top ten and its success shows no signs of flagging.

Mork and Mindy's phenomenal popularity comes as no surprise to Pam Dawber. "I expected our ratings to be really high because nobody else did," she explains in a burst of pseudo-Orkian logic. "Certainly the network had faith in us, but people outside the business... forget it. When you described the basic idea to people, they'd just sort of recoil. 'Mork from Ork? Oohh brother!' Most people thought it was going to be terrible. But I knew what Robin's humor was like. We had to hit."

Visiting ABC's New York offices during a filming hiatus, the willowy young singer-model turned actress expresses a pleasant sense of shock at her meteoric media rise. Within the span of a year, she's made her movie debut in the critically acclaimed Robert Altman film, A Wedding, and has become the darling of the TV comedy crowd via her Mindy role. "I never even expected to be involved in Mork and Mindy," she confesses. "In fact, I wasn't even aware I was up for the part until after I had gotten it. It just happened!"

According to Dawber, the entire concept for the show "just happened" in the home of producer Gary (*Happy Days*) Marshall. "Gary's son asked him to put someone from outer space in *Happy Days*," she says. "Gary thought it was a pretty good idea, came up with a script and started

to audition actors. Someone told him to catch Robin Williams at the Comedy Store in Los Angeles and that was that. Mork debuted on *Happy Days*."

From that point onward, the saga of the soon-to-be hit series gets a bit more complicated. "At the same time, I was under a one-year contract to ABC for a series. I had done a pilot for them about a street-wise nun called *Sister Terri*. It didn't sell. ABC had liked Robin on *Happy Days* and were looking for a vehicle for him. They were looking for a vehicle for me, too. They just put us both together...literally.

"They took little film excerpts of me making faces from Sister Terri and clips of Robin's conversations from Happy Days and electronically matched them up on a screen. The finished footage looked like the two of us were having a conversation. That's how Gary sold the series to the network.

"I really didn't know about the show until after it was already bought. On a Friday I got a call from my agent who told me that *Terri* had bombed, but I was up for something else. The following Monday, in *Variety*, I read about Robin and I being signed for this new comedy series, *Mork and Mindy*. I was a little taken aback. 'What if this is some real dumb thing?' It turned out that Robin didn't know anything about all this either. They sent me Robin's *Happy Days* tape after that and I realized how great he was. Later I met with Gary and he explained that he was going to let us do a lot of improvisation. We would be allowed to work within the framework of a script and make real situations for ourselves."

It's Dawber's belief that a lot of the series' charm comes from this free-wheeling attitude on the set; a sense of spontaneity that makes

Top of page: a bubble-laden can of soda means instant inebriation for Mork and instant amazement for Mindy. Right: Pam Dawber off-camera.

PHOTOS © 1978 ABC-TV





the characters of Mork and Mindy more believable to audiences. "There's a lot of wild improvisation on Robin's end of things which makes everything click," she explains. "On my end of things, there isn't as much. But my job is to set him up. I have to react. He's the bizarre, comedic center of the show. I have to be

somewhere you can go after he's done a routine. I'm the straight person, the eyes of the audience. You know, what would *you* do if this strange person came into your life?"

Defying the somewhat egocentric rules of TV stardom, Dawber admits that she doesn't at all mind playing second banana to out-of-this-world Mork...in fact, she quite enjoys it. "He really amazes me," she says, smiling. "I can't compete with Robin. I don't even try to compete with him. He's a brilliant stand-up comic. He has a need to do all that. I really believe that if Robin couldn't do comedy, he would go insane. He's like that all the time.

"Offstage, he really is Mork...along with about 25 other characters. Even when we're not rehearsing, he's always doing something funny. Not that he's on all the time—he's a very warm, sensitive individual. But he needs that outlet, he's that creative. Things just pop out of him constantly."

Before coming to grips with Williams' energy level, Dawber acknowledges that his intense persona initially unnerved her. "In the beginning," she reflects, "I was a little intimidated because he was so funny, so good. I felt that I was so boring. I couldn't stand myself. After we filmed an episode and I saw it, I caught on to the balance between us and how it worked positively. There has to be that balance there."

As the Mork and Mindy interplay became more easily defined, both Williams and Dawber found less work and more play to be had within the framework of a storyline. "It's gotten to be real fun," says the Michigan-born actress. "We're cracking up all the time. And the more you goof up on stage, the more the live audience loves it. There was one show where Mork got drunk on soda. Then he hid in my attic. I had no idea what a drunken Mork was going to look like when he came down from the attic. So, truly, when I looked over at Robin and saw him stroll down the stairs with these sick glasses and this outlandish hat on, I broke up. I screwed up all my lines.

"And I'm supposed to be having this big fight with my father, saying things like, 'You mean I have to choose between you and Mork?' And I'd look over at Robin and he'd just be hanging there, soaking wet, with those glasses on, clinging to this oversized moose head. I cracked up three times in a row. The audience loves it when that happens. We just stop and start over.

"Robin is always doing something bizarre to get to me. He flashed the audience a few weeks ago. He was supposed to walk around with this towel around him during a scene. I had to tell him, 'You really have to go out in the world and make new friends.' Mork doesn't know how. I just tell him to 'be yourself.' He starts doing routines. I walk towards the door and tell him to put on some clothes.

"At that point, he just opened his towel and stood there naked. Now, I had just assumed that while he was strutting around in this towel he had pants on. It threw me so hard, I fell backwards into the door and onto the floor. He knew he could crack me up like that every time at rehearsal, so he really got into flashing me. When we were filming the episode before the live crowd, not only did he flash



Above: Mork takes the concept of "sitting on it" literally in a display of Orkan tradition. Top left: Pamela poses.

me, but on the way up the attic stairs, he just dropped the towel altogether. The audience went crazy."

Williams' off-the-cuff approach to the series has made *Mork and Mindy* problem-free for all concerned, although his co-star readily concedes that she is very protective of her Mindy character. "One of the things I'm worried about is being considered a 'Gidget,' a real cute character," she says in mock disdain. "I'm frightened of that. I don't want to happen to me what happened to Sally Fields on television. And it's hard. Prior to the first show, there wasn't really a Mindy character. They hired Pam Dawber and they hired Robin Williams. Pam Dawber is pretty much Mindy, having a strong father and fighting for independence.

"And if I can remain an honest person and have honest reactions to what Robin does, then that's all the acting that Mindy needs to have. But it depends on the writers and how much they let me do. I was a little disappointed in that, after our script was written, a couple of stories were handed in where I was just setting Robin up constantly. The Mindy character just wasn't developed enough at that point to allow them to do that. I can see doing that later on when people know who she is. But I don't even know who she is yet. I'm still feeling my way through it. You know, would Mindy do this? Would she think that?"

Because of the fairly outrageous premise of *Mork and Mindy*, well-rounded scripts are difficult to pull off. In fact, the only real problem facing both of the show's stars is the constant need for quality material. "We have some real clunkers," states Dawber, adding, "but I'm not coming down on the writers. They have a hard job. They're trying to get these stories out, staying up until two in the morning writing these lines for us. Then we get them the next







Above: Pam as Mindy and Robin Williams as the irrepressible alien Mork. Top right: a skateboarding contest. Bottom: madcapping

day and say, 'It's my face up there and I'm not saying this stuff!'
When we get a story we think is a turkey, both Robin and I fight
to the finish on it. People can't write for Robin, anyway. They write
lines for him and he winds up saying what he wants to say anyway.
The first time he met the character Exeter on the show, for instance,
he did this big revivalist routine. Robin made the entire thing up.

"In the show where he was supposed to meet new friends but didn't know how, the writers came up with an introductory speech that had him saying, 'Hi there. I'm Jimmy Carter. If you'll be my friend, I'll give you a peanut butter sandwich and my daughter Amy.' Robin just said that it was too lame to even consider and wound up doing a bit about a used car salesman. It just rolled out of him. Meanwhile, the writers just take all this down so it will be in the script the next day."

With Mork and Mindy currently gaining new viewers every week, Dawber feels that the show eventually will please everyone, even the critical viewing faction who feel that it may be just a one-joke show. "I don't think we'll ever become a one-dimensional series," she explains. "Robin would never allow that to happen. He has too many dimensions he can play. I'm more concerned that I don't become a one-dimensional character. I don't want to allow that either. I'll fight to the finish so that doesn't occur. I think everyone realizes what we're trying to accomplish at this point, although it does make them crazy at times.

"People just can't get used to our doing the unexpected. Even when we're rehearsing, we're always goofing around, which makes our writers tear their hair out. They come in to watch us go through the script every night so they can see which jokes are working and which ones aren't. They constantly rewrite things for pacing. We're up there on stage just screwing around, doing the whole script in an old English accent. Or Robin is doing some truly strange character that isn't even in the script. The writers just sit down there screaming...'Come on, you guys! Puleeze?!'"

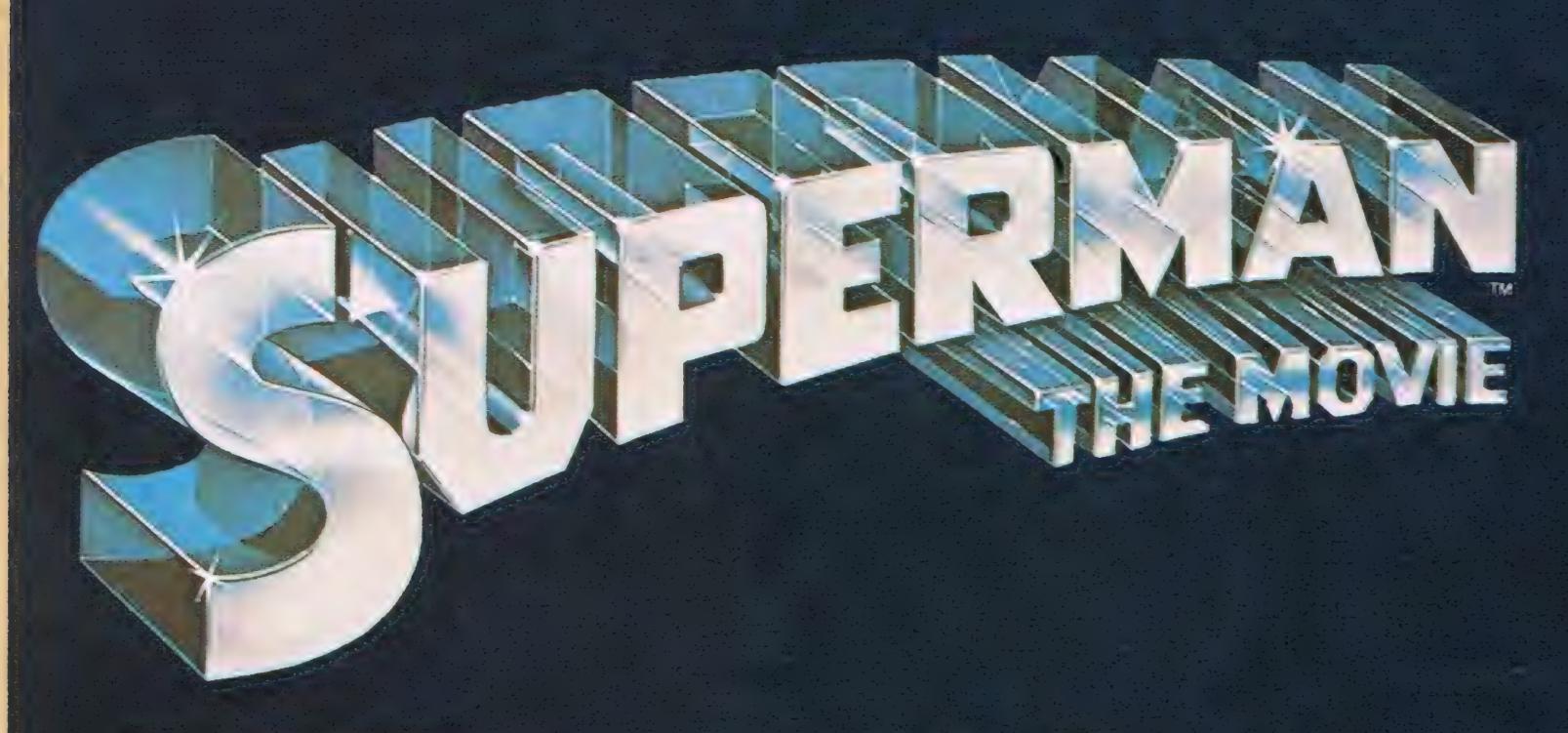
Despite potential on-the-set nervous breakdowns caused by the stars' onstage looseness, *Mork and Mindy* has proven itself a master of rapid-fire satirical delivery. With the series a proven success, Dawber feels that it's time to get beyond the inital concept and get into polishing the many-faceted characters.

"Right now," she says, "we're trying to figure out what direction the show is going to take. The relationship between Mork and Mindy is going to be a bit more on the romantic side, but nothing heavy. There are too many funny things to do for that. We're going to introduce a lot of running characters, too, now that I'm going back to college.

"I'd personally like to see more shows that are funny, but allow you to show some emotion as well. We had a show where Mork thought he was getting in my way and decided to leave home. It was hysterical, yet sad. It was funny because of his reactions and, yet, there was this poignant realization on Mindy's part that she didn't really want this strange person to leave her life."

Pamela Dawber homes in on that image for a moment. "Those are the kinds of scripts that I would love to see: stories that have more than just a funny dimension to them. Stories that are believable."

Five months ago, not many TV insiders would have paid much attention to an ex-model talking about an alien-human situation comedy as being "believable." Today, Pam Dawber is on top of the ratings pile and everybody's listening.



By RICHARD MEYERS

By the time a 29-year-old European named Ilya Salkind conceived of his movie version, The Man of Steel's name and fame was bigger than any man who ever portrayed him, any person who ever wrote about him, any person who ever drew him or even his creators, Jerry Siegel and Joe Schuster, ever perceived him. The responsibility of breathing life into the decades-old legend was a huge one, but one the young producer relished. He would give to the people of the world the ultimate superhero in Superman—The Movie.

when all producer Salkind had was a fervent hope for a spectacular success. That was when British director Guy Hamilton, famous for his James Bond films Goldfinger and Diamonds Are Forever, was going to head the production crew and the opus was to be filmed in Rome. STARLOG was there during production as the new director, American Richard Donner, explained his firm approach, and Christopher Reeve, the young man selected to portray the title character, discussed the difficulties of his role.

And STARLOG was there at the finale, the culmination of more than two years' work and the expenditure of over \$30 million. Finally, the first of a two-part, four-hour homage to the phenomenon known as Superman is in worldwide release. Now, and only now, can the full story be told by

the people who made this most audacious, most expensive and most technologically advanced movie of all time. First, director Donner describes his feelings on having finished his most challenging assignment.

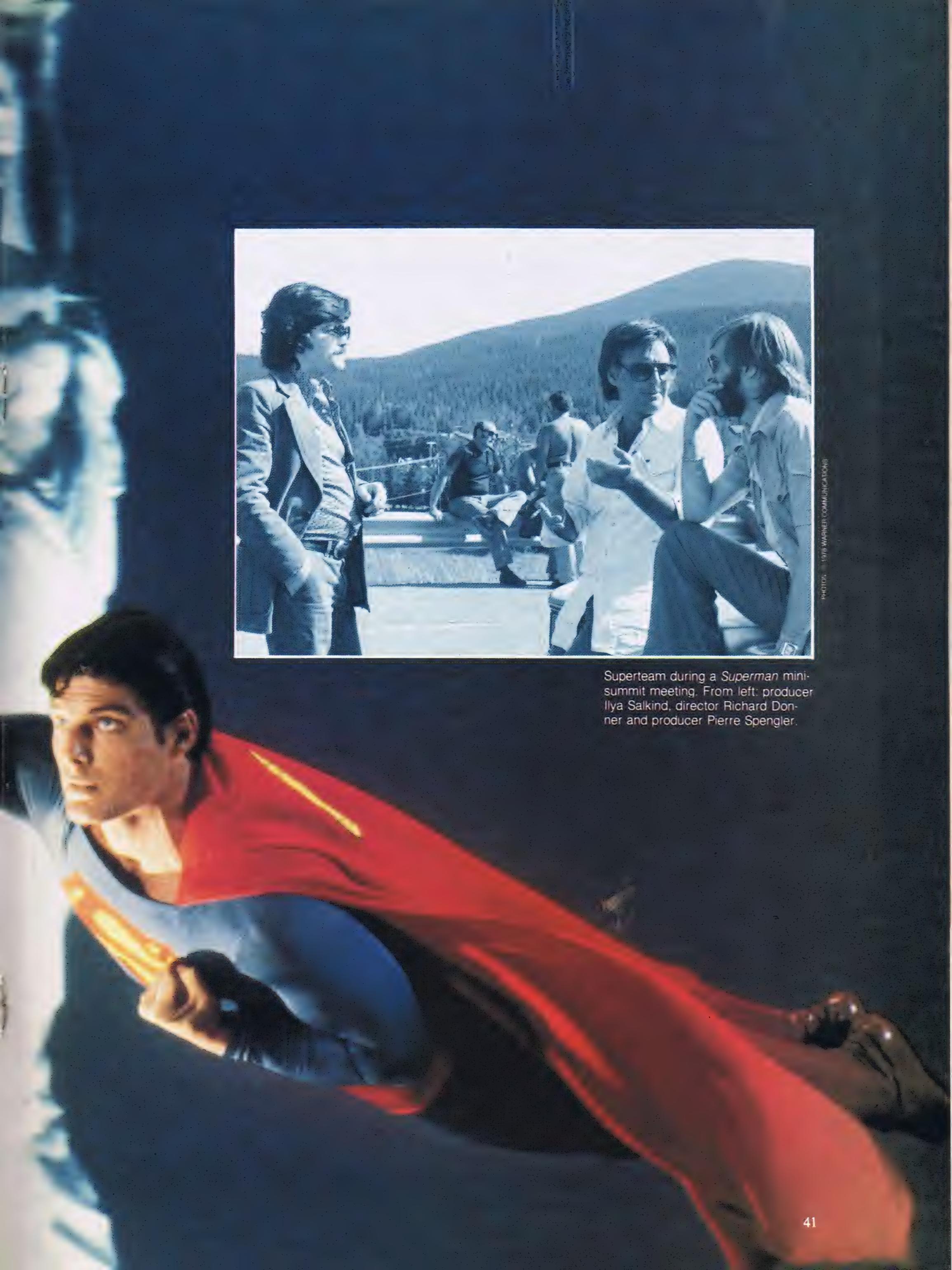
"I want to go home!" Donner wails. "I want my mommy! I used to think I was crazy, but this film proved to me that I really am. So now I know, and you know something? I don't need help. This picture has kept me from the shrink. I feel like every morning's Christmas. Superman is my baby and it's got all ten toes and its eyes are blue. In other words, it's a wonderful film."

Christopher Reeve echoes his director's sentiments. "I think this is the first time a movie has really traveled first class in all departments. There's never been a film like this—from a technical point of view, from a production point of view, even from a script point of view. There was no expense spared and no amount of time or trouble kept us from giving the audience something exceptional."

Troubled Beginnings

Unfortunately, this deluxe treatment was a long time in coming and the road to completion was rockier than many of the crew members care to admit. The groundwork was laid and the trouble began when director Hamilton had to pull out of the project because the production had to pull out of Italy. Tax difficulties forced the movie crew to Pinewood Studios in

Currently soaring across the country, with nary a wire in sight, is the most expensive, most audacious and most mind-boggling production of the world's most popular superhero legend.





England where Donner took over. There he found himself faced with an incomplete cast, antagonistic producers and a script that read read more like looney tunes than the life of a legend.

"Tom Mankiewicz is solely responsible for my Superman script, as far as I'm concerned," Donner flatly states. "He took a great outline by Mario Puzo and a good script by Robert Benton and Leslie Newman and then created a different aura. Writing-wise, he interpreted it totally different and made it better. That's not to knock the other writers, but Guy Hamilton had a different approach than I did. The original was a different form of reality. It even had Kojak in it!"

Reeve interrupts to explain that minor bombshell. "In the original script," he remembers, "Superman was looking for Lex Luthor when he sees a bald guy on the street. It turns out to be Telly Savales who says, "Who loves you baby?" and gives him a lollipop. That was the kind of style that had to go. Puzo had done a beautiful job, but Mankiewicz cleaned everything up. We used his stuff as a guideline, then all of us improvised the new dialogue on the set. The writers squirmed; that's what we had to do."

The necessity for on-the-set rewriting stemmed from Donner's sudden entry into the project. He knew from the very beginning that, for time's sake, he would have to deal with the problems as they cropped up.

Within that framework, the experienced director felt that the only way he could bring the challenging movie off was to surround himself with the acting and technical talent capable of correcting the sudden difficulties.

"My head of special effects, Colin Chilvers, will come out of this picture a new special-effects star," Donner says. "Dennys Coop, who deserves the most credit for solving the flying problems, will come out a big, big hero. Roy Field's work with, and application of, mattes was just phenomenal. And I couldn't believe Derek Meddings' miniatures. John Barry's sets were so good and Geoffry Unsworth's photography was so good that I could



hardly believe it.

"You know, sometimes you finish a picture and you want to reshoot some things and recast. If when I started I had known what I do now, I may have redesigned some things, I may have gone for some different shots, but I wouldn't change one actor...not one. From Margot Kidder to Gene Hackman to Ned Beatty to Valerie Perrine to Marlon Brando to the 'little pieces,' they were all perfect. I'm legitimately thrilled by their work. And as far as Christopher Reeve is concerned...somebody once asked me where I found him. I replied, 'I didn't find him. God gave him to me.' He's probably the most versatile, receptive young talent I've ever worked

with."

But while the creative team around the director were eager and responsive, Donner discovered that the front office was less than enthusiastic. This seething antagonism showed up in angry budget conferences, then in heated arguments and finally with threats of dismissal.

"Yeah," the director says with a sigh.
"The stories in the papers about them trying to fire me were true. I didn't get along with the producers at all. They would have liked to get rid of me. I got along with the Salkinds all right, but I didn't get on with Pierre Spengler. I told him to his face that the film was too big for him but he wouldn't face up to that responsibility. It had nothing

York and Brando, as super-parents Lara and Jor-El, experience the final, catastrophic end of the planet Krypton.

to do with the film itself, it was in the making of the film—the knowledge necessary to pull it off. If he had fared up to the problem we would have brought in help earlier and the schedule would have been tremendously different. But he didn't, so we ended up locking horns."

Compromise

The outcome of that first confrontation was that Richard Lester, the director of A Hard Day's Night, Robin and Marion and



the Salkinds' own *The Three Musketeers*, was brought in as third producer; a buffer between Spengler and Donner. But the problem of getting The Man of Steel to the screen with the proper majesty still remained. The crew found themselves two-thirds through filming without one effective flying shot, the bulk of the special effects untouched, and the initial premiere deadline of March 1978, looming large on the horizon. Finally the producers acknowledged they needed help. That was where Charles Greenlaw, a Warner Brothers executive, came in.

"Let me put it this way," Greenlaw explains. "Superman—The Movie was a Salkind production and it was supposed to have been delivered on a certain date and it became obvious that that date would not be met. The president of Warner finally said to me, "Would you go over to England for a couple of months?" That was a year ago.

"So I came over basically without portfolio or planning or power or responsibility to see if I could help. I discovered that while Donner had brought a tremendous amount of inventiveness to the picture, he had been thrust into it blind and the crew was ill-prepared and underfinanced. Let me give you an example. When I first came here, in December of 1977, there was the climactic desert road sequence set up on Pinewood's back lot. It consisted of two mounds of dirt piled up and a winding sort of road. The opening in the ground required to let Lois' car drop in needed pumps to keep the water out of it. It looked about as much like New Mexico as this room does.

"The Salkinds were still putting up their own money at that time and they kept insisting that the scene be done here (Pinewood). But it was gray and overcast, you could see your breath and the actors shivered no matter how much clothing they had on. Finally I said, 'There's no way you can make this look like a desert. Let's talk.' Then after a series of negotiations, Warner Brothers made a deal. We'd give extra money for a say in the production. At that point I was given the responsibility of the

head of production."

With Greenlaw at the helm, the vitally important special-effects scenes really began rolling. The amount of money finally spent to make Superman's exploits exactly right is awe inspiring and nearly uncountable.

"I've never had access to exactly how much money has been involved with this production from the beginning," says Greenlaw. "The only amount I know for sure is how much Warner has spent to supplement the picture. At about the three-quarter point in filming, we agreed to put up eight million dollars. We'll probably wind up spending more than that in the long run."

The long run in this case almost exclusively involves the unseen magic that makes Krypton explode, the Fortress of Solitude rise, Jor-el speak from beyond the grave, the Hoover Dam burst, the Golden Gate Bridge collapse and The Man of Steel fly. It was in the implementation of these special effects that Donner actually put his job on





the line. He saw to it that only the best effects people were hired and that once they got working, no problem overwhelmed them and no price tag was too high.

Effects Perfection

Roy Field, head of the Superman optical department, probably put it into words best. "We pushed the technology to its very limits in both directions," he recalls. "We always start with certain facts and certain things we know we can do, but then we push it along. Normally when you do a picture you have just one massive special-effects sequence, but this picture has one per reel! I might have thought that another picture I worked on was complicated, but nothing I've ever seen or did can compare with Superman."

The hard-talking, fast-thinking Donner is less restrained in his appraisal of the film's optical effects. "This movie makes Trumbull and Dykstra look like kittens. I love their work, but they maneuvered ships and lights and apparitions. They were beautiful

and magnificent, but my head of special effects, Colin, worked with a live-action person. We've done the best work in history to this point. We had to master front projection like nobody's done it. We had to recreate visual techniques built into art direction. We built miniatures that I defy the average audience to say, 'That's not real.'

The near perfection that Superman— The Movie manages to achieve grows all the more amazing considering the complexity of the undertaking and the number of technicians who worked on it. Production designer John Barry is able to shed a little light on exactly what Donner had to contend with.

"Superman has all enormous problems," he confesses. "You know, he never walks off a set, he flies off! The villains don't come through a door, they come through a wall. Things that you would normally do on location you can't because your leading man has to fly past the window. Take, for example, the Daily Planet build-

Left: Superman and Lois Lane become lovers in Part II, but, insists Donner, it's "tastefully done." Above: Gene Hackman as Lex Luthor with kryptonite pendant.

ing: the lobby, the offices and the elevator are at the *Daily News* building in New York City; the roof Lois' helicopter crashes on is, in fact, 111 Wall Street; then there's a roof set, the top three floors and the bottom six stories recreated on the back lot of Pinewood Studios. So there is one building in two countries in about eight different versions. At any given moment in the studio there are 200 people on five different crews, all clever and all talented and all skillful and all not quite doing what you meant!"

Barry is merely speaking for the physicaleffects teams. In terms of the special photographic effects, it's a whole other ballgame. Optical director Field ventures to explain the intricacies involved.

"Let's not look at Superman just flying," he suggests. "Look at every individual shot and judge it on its own merits.



Lois' reaction to his human alter ego is a constant source of frustration for Superman.

Each has individual problems. Some are complex and some are very simple. So if you take 10 flying shots, I would say that at least three or four will be extremely complicated and terribly time consuming, five or six will be reasonably complicated and two or three will be simple...but there's no easy solution to any of them."

With that complex groundwork established, the Superman crew still found themselves faced with the million details necessary to make the impossible work. The movie would succeed or fail depending on how realistically The Man of Steel could fly. At first the old standby of a harness on wires was tried. Although some scenes utilizing that technique remain, for the most part it proved unsatisfactory. Tests continued with rear projection and miniatures, but other than a few short scenes depicting the superhero approaching a crippled 747 and the Golden Gate Bridge, all the other attempts were scrapped. Donner paraphrases the problem.

"We had to develop a fluid, mobile process of front projection," he explains, "which never existed because of the weight of the equipment and the amount of light necessary. But we and another corporation that we found developed the equipment after nine months from the day we decided to do it. These guys were working day and night, shooting film almost every day, until almost a year later when I accepted a shot as satisfactory."

While humanity has dreamed about it for centuries, time, money and technicians were able to achieve the impossible. At Pinewood Studio's "A" Stage in Iver Heath, England, man flew. Although that might have been reason to celebrate at length anywhere else, the Superman crew

had a new deadline of November 1978 to meet and increasingly little time to meet it. They knew what they had to do, finally, but that knowledge didn't make it any easier.

"We are very proud of breaking the traditional 'blue backing' system," Roy Field declares, "where they said you couldn't have blue in the foreground because it would disappear on film. We got past that, naturally, but we also had to take tremendously strict controls on the negatives because Superman's costume is almost all blue. We had to check and double check all the lenses, all the film stocks and all the development. We had to be very, very precise because the blue in the background and the blue of the costume were only slightly different. It was such a narrow line; we had to be perfect. Thankfully, Dick Donner would only accept perfection."

The Eyes Have It

The director's drive and enthusiasm infused almost every member of the huge Superman production team, making the hard work worthwhile. The proof of his leadership is in the flying scenes themselves, scenes only made possible by the tenacity of Colin Chilvers and Dennys Coop, the process cinematographer. But beyond the newly perfected equipment, Donner lays the success of the flying scenes at the feet of one man—Christopher Reeve.

"Because he *flies*," Donner stresses. "He knows what it is to fly, he feels it—his movements, his expressions, his instincts—the flying is as beautiful as it is because Christopher brought it to life. Anybody could have done it physically after we mastered the tecnique, but it is only real when he does it."

"The actual flying is completed in one's own mind," Reeve replies. "They used to

ask, 'How come the stuntman doesn't look real?' And I said, 'Because the flying happens in the eyes.' The flying comes in the conviction that you know where you are, what the altitude is, what speed you're going and you know what you're looking at. If that's not supplied by the actor, it doesn't happen. Subsequentially I'm not doubled anywhere in the picture—I did all my own flying on rigs where one stuntman broke his collarbone and another had to be put in traction."

Besides the physical aspects of the flying, the mental areas were taxing as well. "The flying is done with me," Reeve explains, "maybe 30 feet off the floor, looking at an English crew reading the racing forms and drinking tea. I'm just looking at a vast sea of blackness, 45 bored technicians and a few very funny-looking camera machines. I enjoyed the physicality of Superman's flying, but a year of the same thing day after day was not easy. There was a time, six or seven months, when I didn't speak a line. It was just interior mental work on the 'A Stage Airline.' Fly us."

Miniature Magic

While The Man of Steel flew through the air with not quite the greatest of ease, other vitally important sequences began to take shape, two of the most important of which were Krypton's destruction and the climactic earthquake. Both needed the services of a miniatures master. The need was filled by hiring Derek Meddings, known throughout the film industry for his magnificent work on Gerry Anderson's TV show, Thunderbirds, and the new James Bond movies, The Spy Who Loved Me and (the yet-to-bereleased) Moonraker.

"When I came on the set," Meddings recalls, "they had been shooting for months and months and they hadn't done one miniature shot. I just went in and took over. I had the same crew as I do on Moonraker and we did all the models, except for that darned starship in the beginning. John Barry didn't even design that thing; some Frenchman did it and I thought it looked like a star off the top of a Christmas tree. We were much happier with the original stuff. We did the Golden Gate Bridge and the Hoover Dam collapse; the car crashes, the tug boat underneath and the flood were done in miniature."

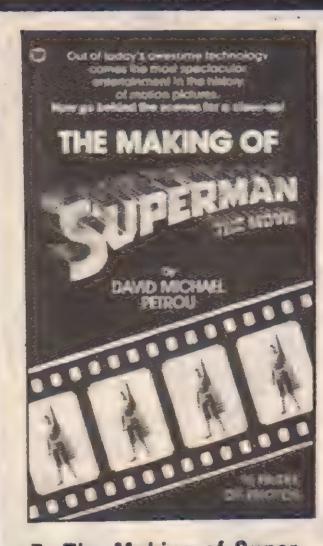
Meddings utilized three models for the Golden Gate sequence: one full-scale section of the bridge, which they built at an airfield, was 200 feet long; one 50-foot miniature was used when they filmed the structure shaking; and a final 30-foot-long expanse when they staged the actual automobile smash. The miniatures expert expresses extreme happiness with the results and the experience of working on Superman—The Movie.

"Dick Donner should get an Oscar for being just a very, very nice human being," Meddings declares. "I thought his work



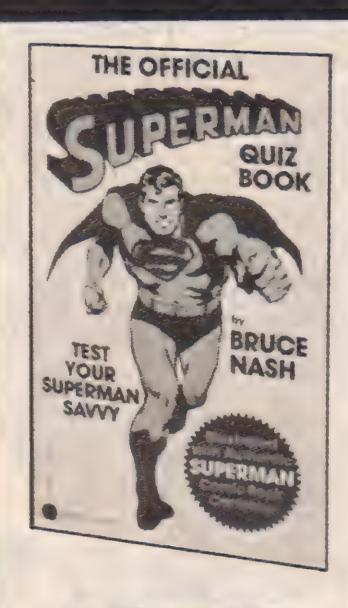
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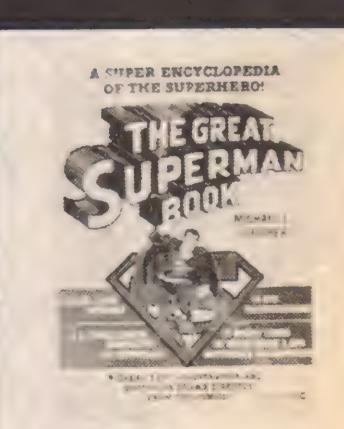
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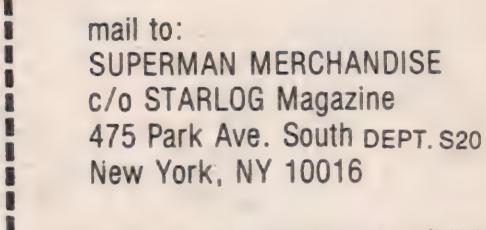
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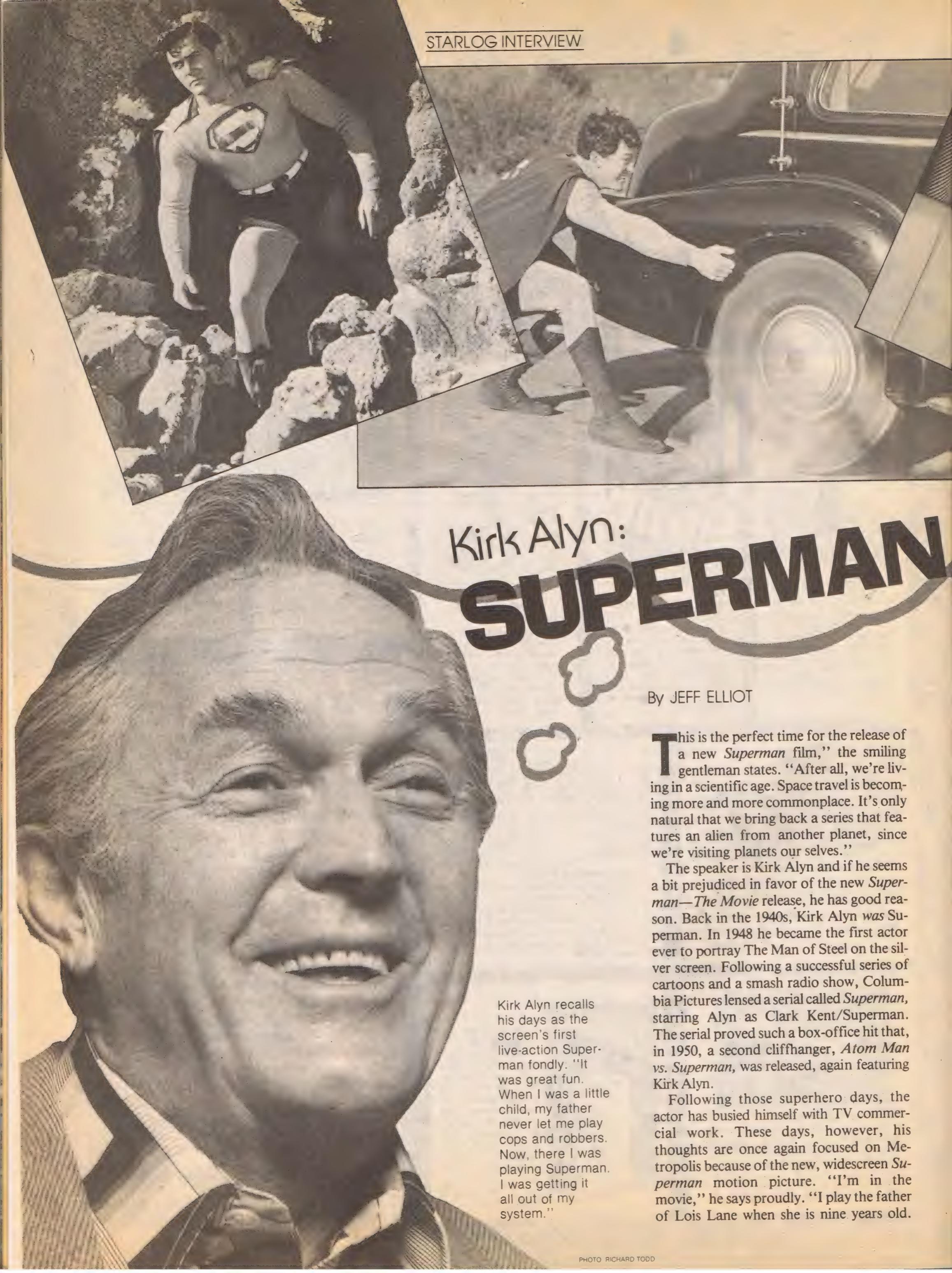
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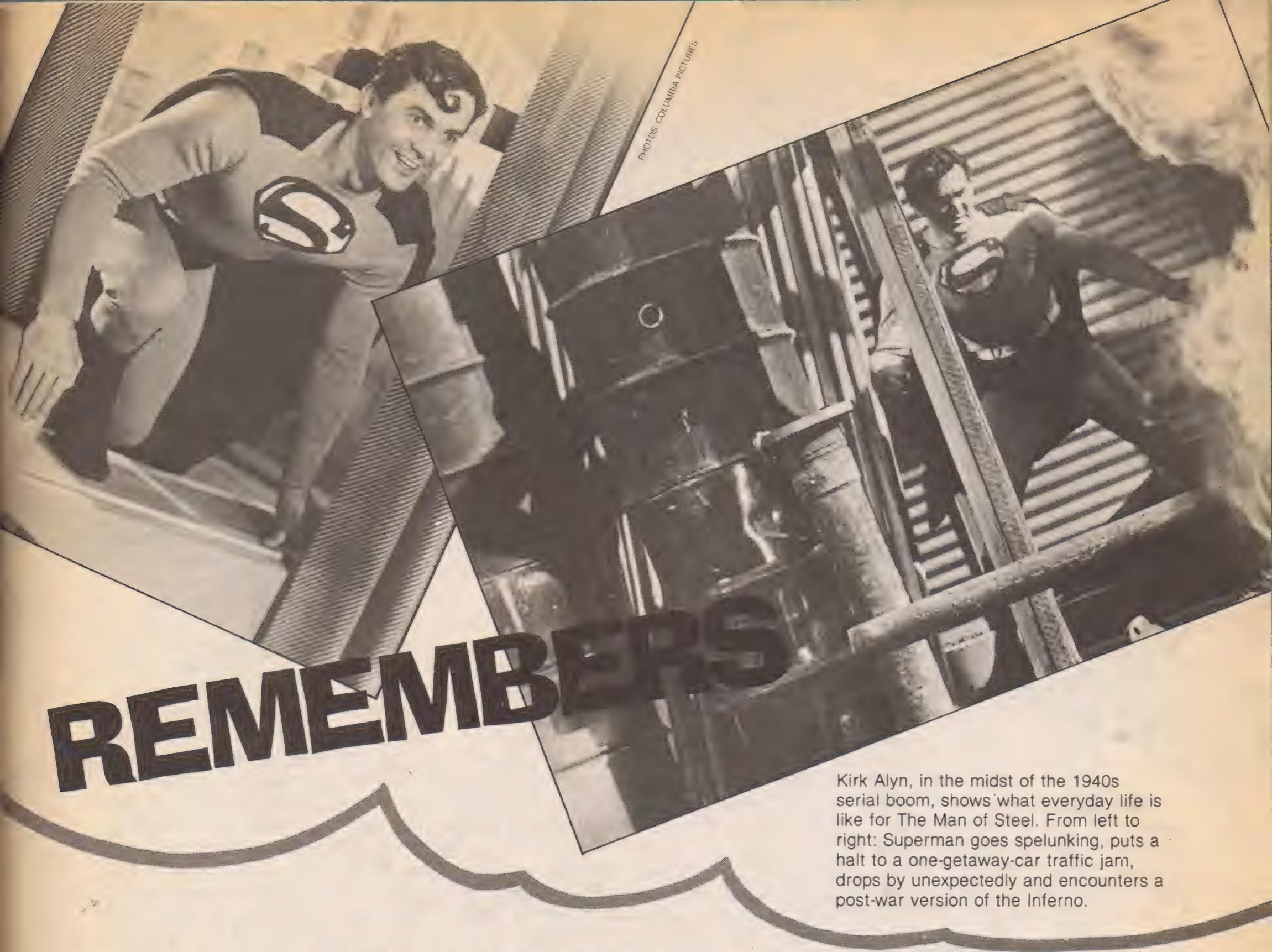
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Noel Neill, who played the old Lois Lane in the TV show and the serial, is also in the picture. She plays Lois' mother. I guess that makes us Ma and Pa Lane."

The serial star is clearly pleased with The Man of Steel's update. "Basically, they're sticking very much to the storyline of the original version," he says. "They're playing it absolutely straight. They're not spoofing it at all. I'm glad they're doing it that way, otherwise it would offend a good many people who enjoyed the original series. I've read the new script very carefully. It's extremely good. As for the special effects, they should revolutionize the industry. They will far outdo the likes of *Star Wars* and *Close Encounters*."

Appearing in the Superman motion picture has stirred up quite a few fond memories for Alyn. "It was great fun playing Superman," he recalls. "When I was a little child, my father never let me play cops and robbers. Now, there I was playing Superman. I was getting it all out of my system. It was marvelous."

Without too much prodding, the genial actor recalls how he fell into The Man of Steel role. After a successful career as a New York stage actor/dancer, Alyn journeyed to Hollywood to seek his fortune in films. "I had done about six films for Sam Katzman, the man who produced Superman. One day

he called and asked me if I'd like to do Superman. I didn't know what he was talking about. 'Is it a movie or a publicity stunt?'

"He told me it was a motion picture and if I was interested to go down to the studio right away and meet a couple of guys from the National Comics Syndicate. They wanted to approve the guy who was going to play Superman on the screen. When I got down there, they stared at me and said, 'Yeah, he looks like Clark Kent, but let's see what he looks like with his shirt off.' Fortunately, I was in good shape at the time. 'Kirk,' the guy said, 'take your pants off.'

"I was shocked. 'Now, wait a minute...' I began. 'Look, Kirk,' he said, 'you're gonna have to wear tights in the movie. I have to see what your legs look like.' The entire audition took about 15 minutes. Sam told me to go downstairs and sign the contract. When I got downstairs, a girl told me that they had auditioned 125 guys in the last two weeks. 'You mean I'm not the first one Sam called?' I winced.

"I found out later that I got the part because I looked the most like Clark Kent. That must have helped a great deal. That and the fact that a lot of the guys they interviewed could barely speak English; a lot of Greek wrestlers, fighters and big muscle men. They must have gotten so tired of looking at those people that when I walked

in they said, 'For cryin' out loud, sign him up, he's all right.'"

Once assigned the role of Metropolis' most celebrated citizen, Alyn found that his dancing career (which included the study of ballet) helped him in his crime-fighting duties. "I had to do all my own stunts," he says. "And the strong dancer's legs helped me a great deal. I didn't need a trampoline to help get me off the ground. And I did it gracefully! Being Superman, I had to do everything gracefully, because everything was supposed to be easy for him. If I leaped off the top of a building, I had to land gracefully. I couldn't land flat on my feet the way a stunt man would do it.

"They tried to use a stunt man stand-in for me in the beginning, but once they previewed the rushes, they decided that the audience would never believe this guy was me. He didn't look like me, move like me, or act like me. So they asked me if I minded doing the stunts myself. I said, 'Sure, I'll do 'em.' That's where all the fun was anyway."

As shooting progressed, Alyn found that his idea of fun and the studio's idea of fun weren't exactly compatible in terms of chuckles. "There were several times when they forgot I was an actor," he grimaces, "when they thought I really was Superman. I would pick up real people, leap off cliffs, break things with my hands. And you don't



do those things in just one take. You rehearse them four or five times. Then you shoot the scene two or three more times until you get it right. Well, it takes an awful lot of strength to do those things in a manner that's really convincing. My ballet training came in handy.

"I never got injured, but I damn near got killed. Now, you might wonder how that's possible. Well, in one scene, I was positioned 18 inches away from a railroad track with a train barreling by at 90 miles an hour. Now, if you don't think that's scary, nothing is. If the slightest thing had gone wrong, it would have been all over for me.

"It was a very dangerous scene to shoot. I was supposed to be holding the track in place so the train could zoom by safely. I had to hold it long enough for the train to pass, And the train never slowed down. Moreover, I had to pose for the cameras at just the right angle. Fortunately, the train whizzed by me before I knew what was happening."

Alyn nearly had to change his name to Hercules during the rigors of serial work to perform some of The Man of Steel's other feats of skill. "It was rough," the actor states. "I carried real people around in various scenes—not dummies. Of course, everyone assumed they were dummies, but they weren't.

"In one bit, I was supposed to turn in to a flaming building, pick up these two people and carry them off to safety. Well, I picked each one up in a different arm. We did a couple of takes, but for one reason or another, they had to shoot the scene several times. After a while, our director, Spencer

times. They're not dummies, you know.' He got totally flustered. 'Oh, jeez. You're not supposed to carry the real people! Where are the mannequins? Bring out the dummies!""

When not running, jumping, or smashing things, Superman spent his onscreen time flying; a task which presented some truly unique problems for novice alien Alyn. "They used some animation in my flying scenes, especially when I was shown flying at a distance. I would do the actual takeoff, at which point we would cut and the animation would take over.

"We also used wires...then again, we didn't. At first, the special-effects department talked the producer into thinking that we could opaque the wires and light the scene in such a manner that you would never see the wires on the screen. So, we proceeded with that formula. They made me a breast plate, which I put on underneath my costume. The necessary wires were then attached to the plate. Boy, was that murder! It was the hardest thing I ever had to do in show business.

"You don't know what it's like trying to hold your legs straight up in the air for nearly eight hours. My neck hurt, my back hurt, my stomach hurt, everything hurt. The day after we shot the scene, we looked at the rushes. You could see every wire just as plain as you could see me! The producer hit the ceiling! He fired everybody connected with the operation. The next day we went into a special-effects studio, where I stood on the floor in front of a blue cyclorama, in order to convey the illusion of a sky. I stood there, with fans above my head blowing straight down at me. Smoke pots were set up in front of the fans so it would look like

clouds were whizzing past me. I looked straight up, with my arms raised, while the camera was turned on its side in order to create a flying effect."

After two serials, Alyn was beginning to sense that his career as Superman in the movies was a dead-end, artistically. "I couldn't get a job in Hollywood," he remembers. "I was permanently typecast as Superman. When they shot the second serial, they discussed the possibility of a television series with me. The casting director asked me if I wanted to do the TV version, but in a manner that discouraged me from doing it. You know, 'Kirk, now we can't pay you a lot, and we don't know if it will catch on or not, and. ... 'So I said, 'Well, if you don't know how it will do, then there's no use in prolonging the agony. I've got enough troubles. I can't get a job anyway. I'm going back to New York."

As it turned out, the phenomenally successful Superman serials paved the way for an equally popular Superman TV show starring the most famous Man of Steel ever, George Reeves.

Alyn returned to New York. "The fact that I had played Superman didn't really pose a problem. Everyone remembered me from my earlier days in New York. When I went back, the same casting directors were there, the same agencies were there, the same studio people were there. As a result, when I walked into the offices, it was like old home week. I started where I left off."

These days, Alyn is once again immeshed in Supermania. Deluged with daily fan mail, he has just written an autobiographical look at his Man of Steel days entitled A Job for Superman, and his appearance in the new film is sure to please his legions of stalwart fans.

"I was delighted to do the new film," he says grinning. "You know, as I look at Superman today, I can see how important those films were to American audiences. In fact, when Superman comics came out, they practically revolutionized the comic book industry of the 30s. Before Superman, we never had any comic book heroes other than cowboys and detectives. Now, all of a sudden, we were bringing men to Earth from outer space. Many comics tried to imitate him, but they never really succeeded. The kids went crazy over Superman...and they have never stopped going crazy

Reflecting on his historical appearance as The Master of Metropolis, Alyn flashes a heroic, thoughtful look, not unlike the expression used by ace reporter Clark Kent while timing a Superman entrance. "You know, if I were given the chance, I'd do it all over again. The money wasn't much. It was mostly a labor of love, but today especially, I'd relish the chance to play Superman. The role has taken on a special importance. It's a vital part of Americana. It's an exciting role, a challenging role, a fulfilling role."

Standing next to a poster from Atom Man vs. Superman, the tall, gray-haired actor sighs. "Sure, I would love to do it again."



Lon Drive Speciff

The First Interplanetary Electric Rockets

By JAMES R. STUART

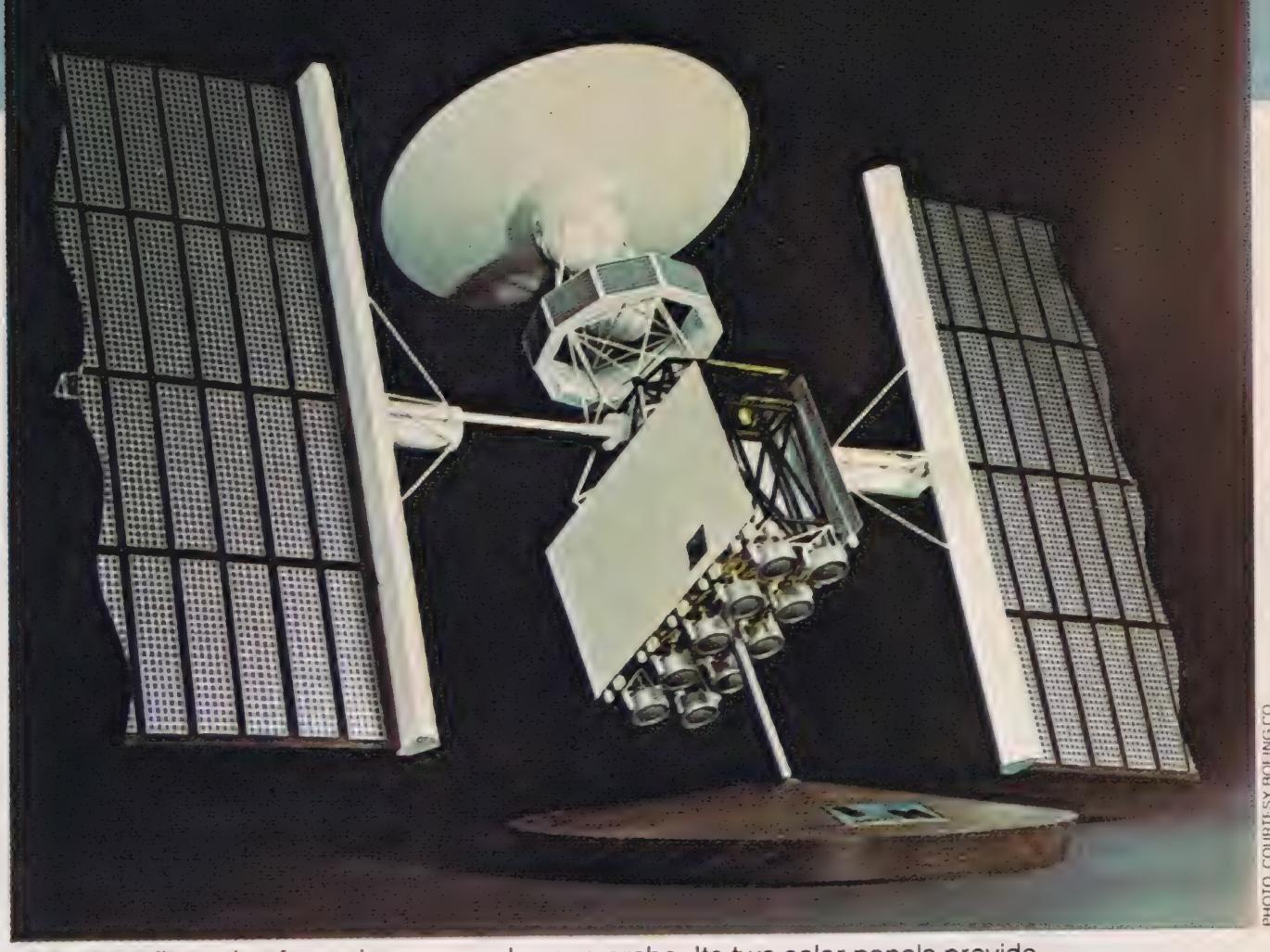
space is coming of age. The nature of space, the Solar System and our relationship to them have fascinated humans since the day they stood on two legs and thought about more than their next meal. It is tremendously exciting that now, after our "giant leap for all mankind" has taken us across the threshold via Apollo, our advancing technology, promises to throw open for us the doors to the last frontier.

The exploration of the Solar System, to learn its origin and evolution, has been the goal of the United States space program for many years. We have already accomplished all the easy low-energy missions, and the era of high-energy planetary missions is now emerging. The missions requiring higher propulsive energies are all that are left.

We have launched gradually larger and larger satellites around Earth. The bigger the satellite, the more launch energy is required. We have done flybys of all the planets and moons out as far as Saturn. To keep the travel time to the outer planets short, we want to go faster still, which again means more launch energy. We have orbited and landed on two of our nearest neighbors, the Moon and Mars. This requires even more launch energy because these spacecraft are much heavier with their chemical retro-propulsion systems. A fast approaching spacecraft must be slowed down with a large retro-burn in order to get into orbit around a planet. Landings require an even larger propulsion system, allowing the spacecraft to be slowed down enough to fall to the surface and then land softly.

During the coming decades our planned expansion into space calls for venturing farther out with bigger and better orbiters, landers, rovers and even remotely con-

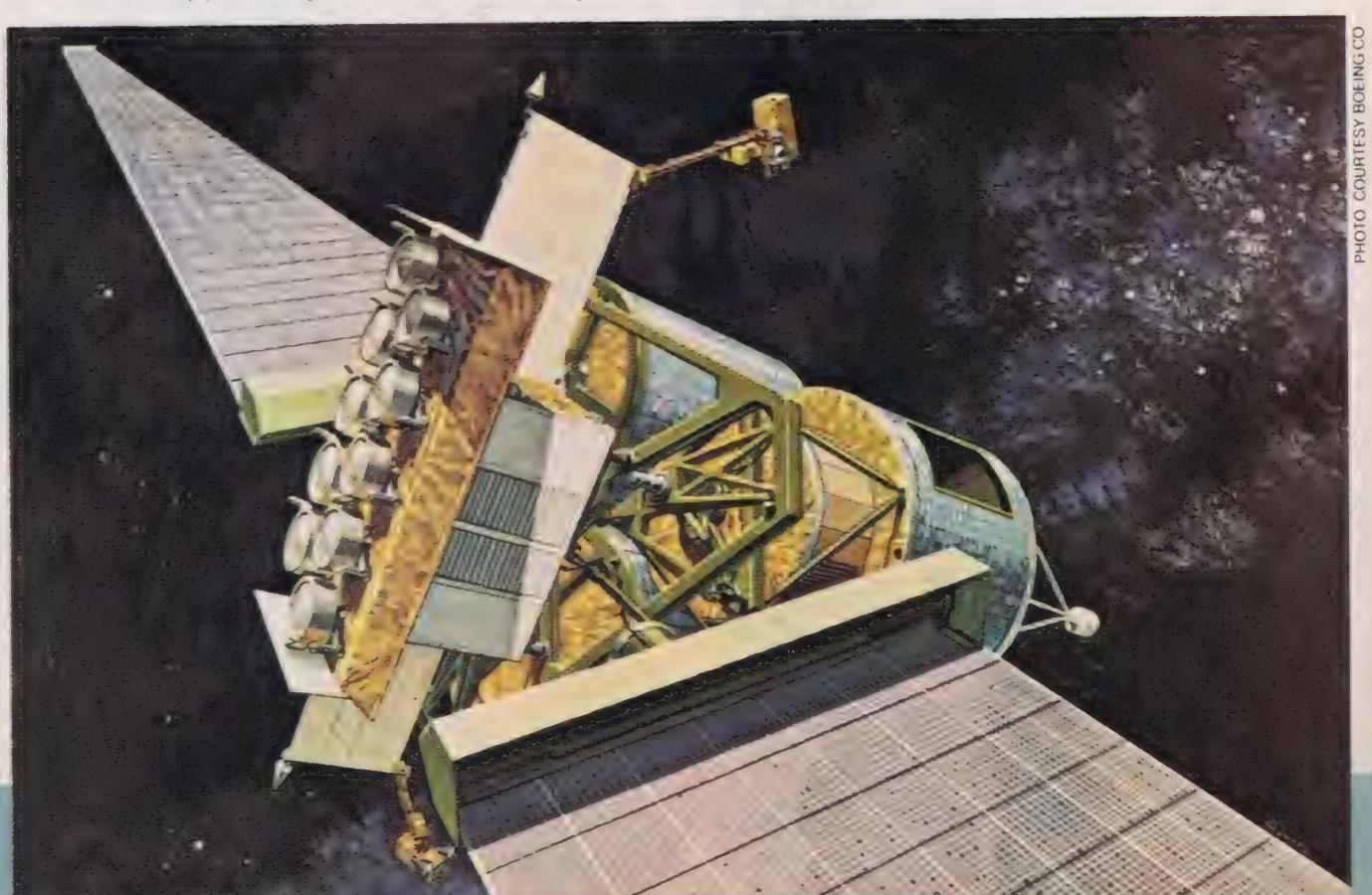
An ion rocket propels a group of three cylindrical exploratory craft out into the solar system for diversified research.

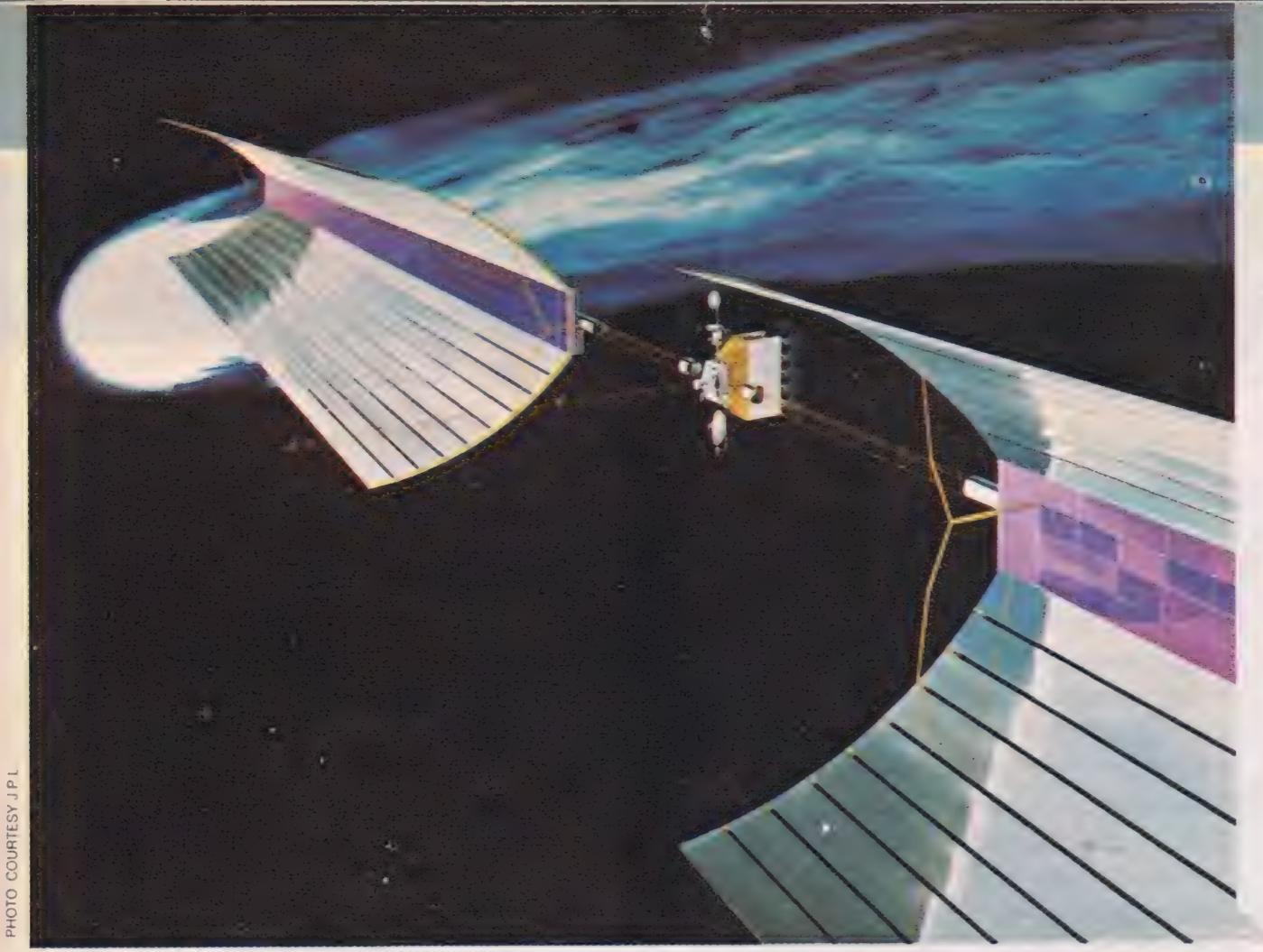


Typical configuration for an ion-powered space probe. Its two solar panels provide the electrical energy necessary to run the 10 ion engines. A payload sits on top.

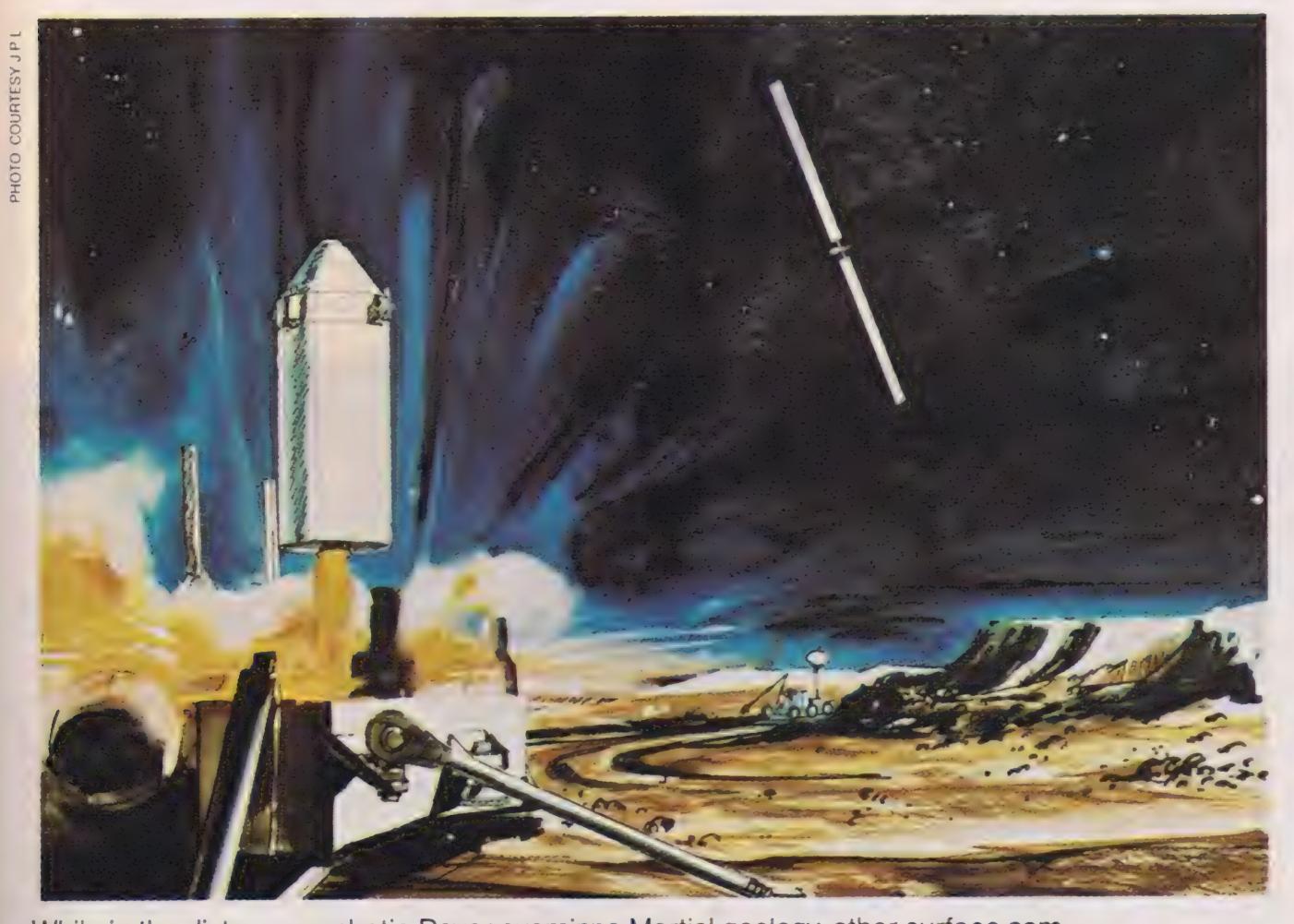


An ion-drive spacecraft, launched into orbit by a shuttle, is boosted into space by the Inertial Upper Stage, which then drops away. The solar arrays unfold for power.





NASA had hoped to have an ion rocket rendezvous with Halley's Comet; a fly-by is now planned. Reflectors protrude from solar panels to concentrate available sunlight.



While in the distance a robotic Rover examines Martial geology, other surface samples are blasted up to the waiting ion spacecraft for return back to Earth.



trolled spacecraft that will return surface samples to Earth. Still further in the future, but already on the drawing board, are plans for large manned space stations, manned interplanetary missions and entire colonies in space. All these planned activities point to one consistent need: energy—propulsive energy—and lots of it!

To date, NASA's missions have been conducted with chemical propulsion techniques derived from the missile program of the 1950s. In fact, most of NASA's launch vehicles are descendants of former military missiles (like the Titan and Atlas).

These conventional chemical rockets work by heating the propellant to an extremely high temperature and pressure in the combustion chamber and then "squirting" it out through a nozzle to get the highest possible exhaust velocity. The propellant leaving in one direction gives the rocket a push in the opposite direction. As with a water hose, the higher the pressure and velocity from the nozzle, the bigger the push; the more fuel that is carried along, the longer the push can be sustained.

Chemical rockets have kept growing in size, carrying more and more fuel, to meet the increasing propulsion needs of our space exploration ambitions. These chemical rockets, climaxing with the huge Saturn V, have now reached the end of their evolutionary line. Like the dinosaur, these modern-day giants are becoming extinct.

The first radical departure from the military heritage of launch vehicles is NASA's new space transportation system, the space shuttle, and its solid-propellant Interim Upper Stage (IUS), which provides the shuttle with even more launch energy. But even the shuttle/IUS launch system is marginal for those immediately desirable high-energy space exploration missions—a Mercury orbiter, a Saturn orbiter, or a rendezvous with a comet or an asteroid. To accomplish these missions, NASA is completing development of a revolutionary, highly efficient ion rocket. The dawning of ion propulsion to augment the new shuttle/IUS capabilities means the Solar System is opening for us to

(Continued on page 74)

A Saturn Orbiter craft is performing its retro-burn to establish orbit after being dropped off at Saturn by the ion rocket.

INTERPLANETARY EXCURIONIAMS.

Port of Call: Beta

awesome slopes of the huge Martian volcano known as Olympus Mons, a mind-boggling peak whose skirts, on Earth, would extend all the way out to the four sides of New Mexico. Hundreds of times larger than any of its puny terrestrial counterparts, it is a true wonder of the Solar System. Surely, then, it is the largest of its kind.

But wait....

Certainly it is the best known, famed

among space-farers and groundlings alike and high on anyone's list of great planetary scenery. But fame alone is hardly a criterion for I.E.I., which scours large worlds and small, plying the back spaceways in search of the beautiful and spectacular, however far off the beaten track it may lie. If blazing new trails is your cup of klah, consider instead a feature known only as "Beta": existing evidence suggests that it may contain a volcano more than a fourth larger than Olympus Mons—yet it has never been seen by the human eye!

For Beta is on Venus, hidden from living viewer and camera alike by the secretive planet's all-concealing veil of cloud. No robot spacecraft has been to Beta's vicinity to take a look from the surface, and even when such a trip is made, any resulting photos may be inadequate to the task. The haze-ridden atmosphere, compressed by its

own weight to nearly 100 times the sea-level pressure of Earth's own air, allows but a gloomy fraction of the Sun's light to reach the ground, reddened by absorptions and possibly distorted until the horizon seems to curve upward like the distant edge of a vast bowl seen from within. Even without such obstacles, the view would be frustratingly limited for any low-slung landing craft, since much of rambling Beta's flanks would be beyond the curvature of the planet.

(Continued on page 64)

The wonders of "real" space are at least as remarkable as any environments dreamed up for novels, movies or television; hence this column—a regular travel guide for the spacefarer. Jonathan Eberhart is Space Sciences editor for Science News.

Looking out across Beta's caldera on the planet Venus. I.E.I. explorer vehicles are taking groups along the rim for close-up studies and from above since the dense atmosphere obscures distinct detail.



If you are a young filmmaker with a special interest in science fiction, special effects and the limitless magic of the cinema. . .

THIS IS YOUR MAGAZINE



For several years CINEMAGIC has been one of the most popular and most important movie fanzines published, but like all fanzines, it has been very limited in distribution. People have heard of it, but most young filmmakers have never actually seen a copy. Back issues are expensive rare collectors items now. It's almost a mythical underground legend...like the lost continent of Atlantis.

But now that will change. The publishers of STARLOG have joined forces with Don Dohler, the originator of CINEMAGIC, in order to produce a new, exciting version of the magazine that will enjoy wide distribution (only by subscription and in collector shops—no newsstands!) and will include photo articles about pros as well as amateurs.

CINEMAGIC will feature full-color photos, diagrams and design art and will guide readers, step-by-step, through the challenging techniques of backyard moviemaking. CINEMAGIC is a must for everyone who enjoys behind-the-scenes film work and everyone who is aiming toward a professional career in any aspect of the movie world.

Published quarterly (4 times a year) CINEMAGIC is available by subscription and in limited local stores only!

To be certain that you do not miss out on a single data-packed issue of CINEMAGIC, we suggest that you send in your subscription order TODAY!!!

NOT ON NEWSSTANDS!
Subscribe Today!!!

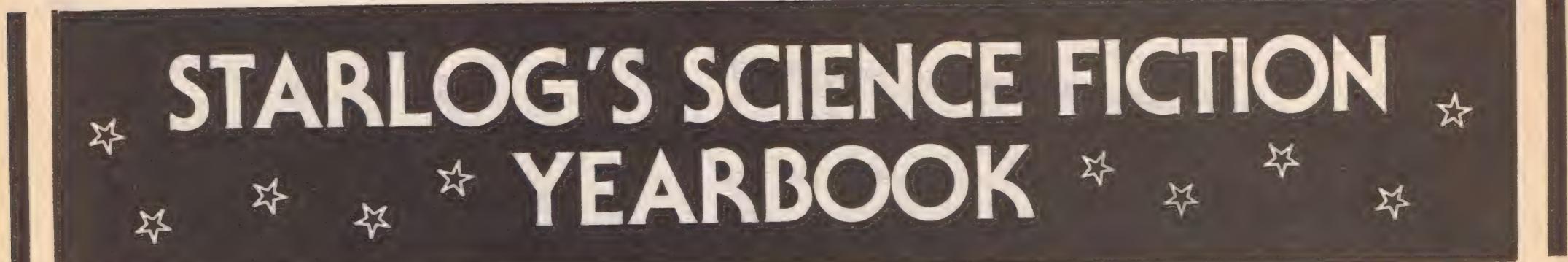
- * Aerial brace techniques to make creatures fly in your model animated film.
- * How all the special-effects footage for Rocketship X-M was re-shot almost 30 years after the original release...launching a giant space-ship less than 30 miles from downtown Hollywood.
- * News about fantasy and SF films in production by young filmmakers.
- * Last-minute tips on making your film a winner in the SF Short Film Search.

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- * Readers' forum—letters and questions exchanging techniques and production secrets!
- * Step-by-step illustrated articles detailing methods you can use to create visual effects, makeup and sound FX.
- * Learn about exotic film stocks and special lab services beyond the corner drugstore!
- * How to produce professional titles that move, change color, melt, sparkle, burst into flames, zoom into space...all for a few bucks!

- * Tired of square screens? Learn about inexpensive lenses and devices to make your picture W-I-D-E-S-C-R-E-E-N
- * Breakaway props for realistic fight scenes.
- * Animation on your homemade stand.
- * Build your own robots with electronic light effects.
- * Make your own foam latex animation models, molds and armatures . . . and make them come alive!
- * Glass paintings, matte box effects, split screens.
- * Fantastic sets, spaceship control rooms, backyard landscapes... without blowing your budget!

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FOR THE FIRST TIME... EVER!

TARLOG is now in the process of preparing the first, historic volume of a continuing, quality, large-format, paperback series that will—for the first time anywhere—chronicle the entire year's events throughout the manifold world of science fiction. Scheduled to be published during the summer of 1979, the first annual SCIENCE FICTION YEARBOOK will be available through the pages of STARLOG and FUTURE magazines, as well as at bookstores all across the country.

Edited by SF author and STARLOG columnist David Gerrold and compiled by SF enthusiast Dave Truesdale, the YEARBOOK will include contributions from the editorial staff at STARLOG/FUTURE, as well as from readers and professionals around the world. The YEARBOOK will feature more than

90 pages of news, photos, art and information.

The news section will cover all aspects of the fields of SF literature, film, recording, television, conventions, publications and special events. The art and artists section features a spectacular SF painting in the center spread (done exclusively for the YEARBOOK) plus outstanding book covers, posters, calendar and other SF graphic arts. The fan field is covered in depth in terms of conventions, personalities and unique projects. In addition, the YEARBOOK spotlights articles by two of the leading authors in the SF world.

For many, the highlight of the SCIENCE FICTION YEARBOOK will be the awards section. This will feature Nebula, Hugo and all other important awards winners of 1978, but most exciting, it will

announce the results of the First Annual STARLOG Science Fiction Poll.

Here's your chance to speak out, let the world know who the science-fiction audience is, and vote for outstanding, creative achievements. The following page, front and back, is your Official Poll Ballot, and here are the simple rules that govern your voting:

1. Both sides must be filled out completely or ballot is void.

- 2. Only one ballot per person (reproductions and duplicate ballots will not be counted).
- 3. Your name is not required on the ballot, and all responses will be strictly confidential.

4. Do not include with mail orders; send ballot in envelope by itself.

5. Deadline for entries is March 15, 1979. Ballots received after that date will not be counted.

6. Send ballots to:

YEARBOOK BALLOT c/o Dave Gerrold P.O. Box 1190 Hollywood, CA 90028

The results of this poll will be announced ONLY in the 1978 SCIENCE FICTION YEARBOOK. No personal replies or other correspondence are possible, however, if you wish to suggest a news item, an outstanding person, or any other SF event from the past year that you think should be included in the YEARBOOK, send information, in a separate envelope, to the same address.

This is truly a publication of major importance to everyone who enjoys and is involved in the

science-fiction community. It is something to look forward to!

STAILING SCIENCE FICTION POLL

1. I am male female	Other
singlemarried	10. Are there any science-fiction topics that you are
2. lam years old	specifically interested in reading about?
3. My highest level of education is:	
elementary	11. Are there any subjects that you feel science-fiction
junior high school	writers should <i>not</i> write about?
	Wilters should not write about.
high school	12. Which of the following magazines do you read? (Please
junior college	rate on a scale of 1-5.)
college	1—never 2—occasionally for specific articles
graduate school	3—purchase often 4—purchase regularly 5—subscriber
4. What kind of music do you prefer listening to?	FUTURE
(Please number in order of preference—#1 for favorite)	STARLOG
- Pop	
rock	GALAXY
country & western	ANALOG
classical	FANTASY & SCIENCE FICTION
jazz	GALILEO
Broadway shows, movie soundtracks	UNEARTH
other (please specify)	OMNI
5. What musical works would you consider to be of in-	TIME
terest to a science-fiction fan?	NEWSWEEK
	SCIENTIFIC AMERICAN
6. What is your occupation?	ALGOL
7. Within the science-fiction genre, which of the following	FANTASTIC FILMS
are of special interest to you?	LOCUS
SF media (TV & film)	LIFE CINEEANTACTIONE
SF literature	CINEFANTASTIQUE AMAZING
Fantasy/Gothic novels	
Fantasy/horror films	MADNATIONAL GEOGRAPHIC
SF nostalgia & retrospectives	HEAVY METAL
Collecting: books, art, models, etc	NATIONAL LAMPOON
SF kit modeling	FAMOUS MONSTERS
Comic books	DC and/or MARVEL COMICS
8. What is your annual average income?	UNDERGROUND COMICS
\$10,000 or less	OTHER
\$11,000—\$20,000 \$21,000 \$20,000	13. Do you read any of the following fanzines? (Please rate
\$21,000—\$30,000 \$31,000 \$40,000	1-5 as above.)
\$31,000—\$40,000	THRUSTTANGENT
\$41,000—\$50,000 above \$50,000	SCIENCE FICTION REVIEW
9. Are you interested in a career in any aspect of the fol-	A PIECE OF THE ACTION
lowing fields (please specify):	OTHER
Filmmaking	14. Do you publish a fanzine of your own?yesno
Science-Fiction Literature	What is the title?
Science-Fiction Illustration	(If so, could you send a copy along with your ballot?)
Oblighted Total Industration	(oo, ood.a jou oo.la a oopj along little jour admittel)



15. Are you a member of an amateur press association?	31. What is the scariest science-fiction/fantasy/horror movie you have ever seen?
Which one? 16. Have you ever attended a science-fiction convention? yesno If yes, give name and date of last few	The funniest?
17. Have you ever attended a WORLDCON? yesno If yes, which one(s)?	33. If you were compiling a list of the greatest science fiction/fantasy novels and stories, which 5 would you put on it?
18. Have you ever voted for the Hugo Awards?	
(Please rate on a scale of 1-5.) 1. always disagree with outcome 2. generally disagree 3. sometimes agree, sometimes disagree	34. What was the best science-fiction/fantasy film released in 1978? 35. Which science-fiction/fantasy film released in 1978 had the best special effects?
4. generally agree 5. always agree 20. Do you think the outcome of the Hugo Awards is influ-	36. Which science-fiction/fantasy film released in 1978 had the best screenplay?
enced by fads or trends? yesnosometimes 21. Are you a member of the Science Fiction Writers of	the best musical score? 38. The best episode from a continuing science-fiction/ fantasy TV series released in 1978 was:
America?yesno 22. How would you rate the Nebula Awards for reliability? (On a scale of 1-5 as above.) 23. Do you think the outcome of the Nebula Awards is influenced by fads or trends? yesnosometimes	39. The best made-for-TV science-fiction/fantasy movie released in 1978 was: 40. List the best science fiction/fantasy novels in 1978:
24. Are there areas in which you feel too many awards are given out? (Please specify.)	
25. Are there areas of achievement in science fiction for which you feel there is no suitable award?	41. List the best science-fíction short stories of 1978:
26. What do you think is the best science-fiction movie ever made?	
27. If you were compiling a list of 5 classic science-fiction/ fantasy films, which five would you put on the list?	42. If you were compiling a list of great science-fiction/fantasy illustrators and artists, who would you include?
28. What do you think is the best SF-TV series ever made?	43. Which SF personality made you the angriest in 1978?
29. If you were compiling a list of great science-fiction/fantasy TV shows, which 5 episodes (any series) would you put on the list? (Please specify series also)	Why?
	Why?
30. Which science-fiction/fantasy books or stories would you like to see made into movies?	46. How would you have answered the question(s)?

JILD YOUR OWN



By G. HARRY STINE

There it sits on its launch pad, ready for liftoff into the sky. The crowd around the launch area grows tense with anticipation. For most of them, this is the first real rocket launch they have ever seen in person.

The countdown progresses: "Three ... two...one...liftoff!"

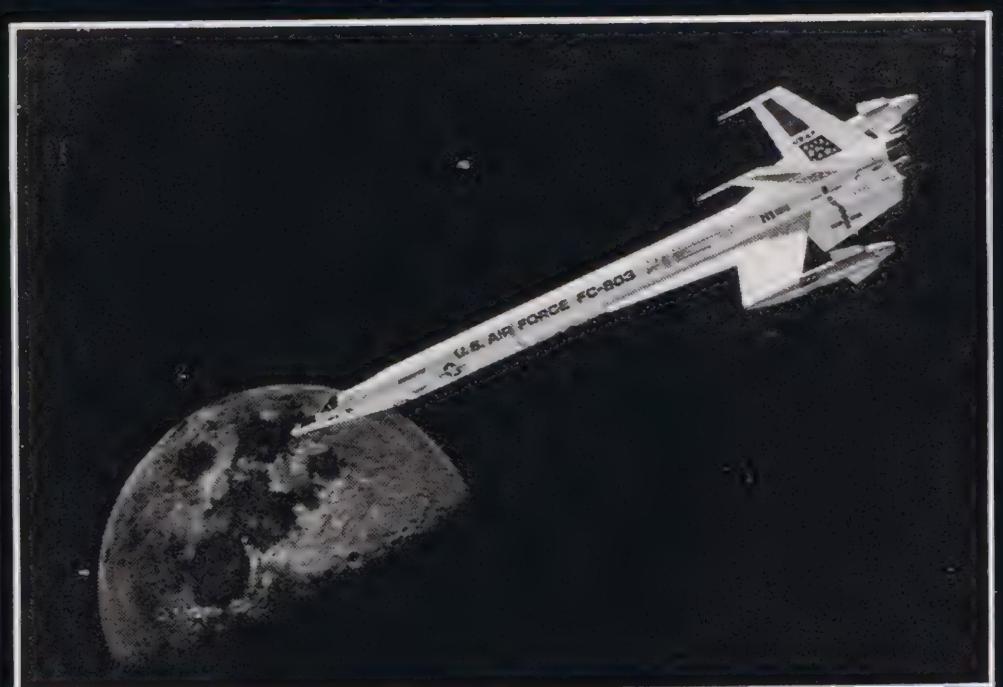
And your very own spaceship, built with your own two hands, lifts off from its miniature launch pad in the middle of the local football field. It's a model, only 18 inches long. It can't journey to the stars. . . except in your imagination. But it got off the ground. It flew. It has left the surface of planet Earth.

wenty-five years ago you couldn't fly that model spaceship; the hobby/ sport of flying space modeling didn't exist. Space modeling began in 1957 and was known as "model rocketry" for many years until the recent excitement over star flight caused its name to be changed to "space modeling." It started when Orville H. Carlisle, a shoe salesman from Norfolk, Nebraska, wrote to me at White Sands Proving Ground in New Mexico where at the time I was engaged in full-scale rocket engineering. Carlisle had a little flying model rocket propelled by a replaceable, solid fuel rocket motor and equipped with a

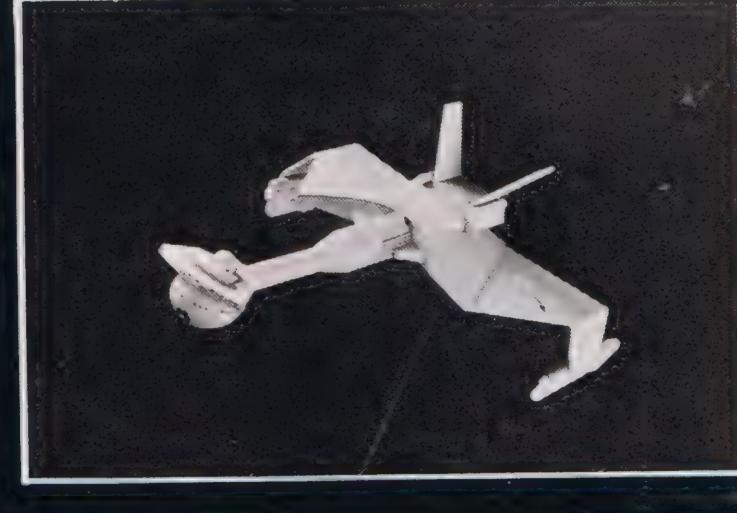
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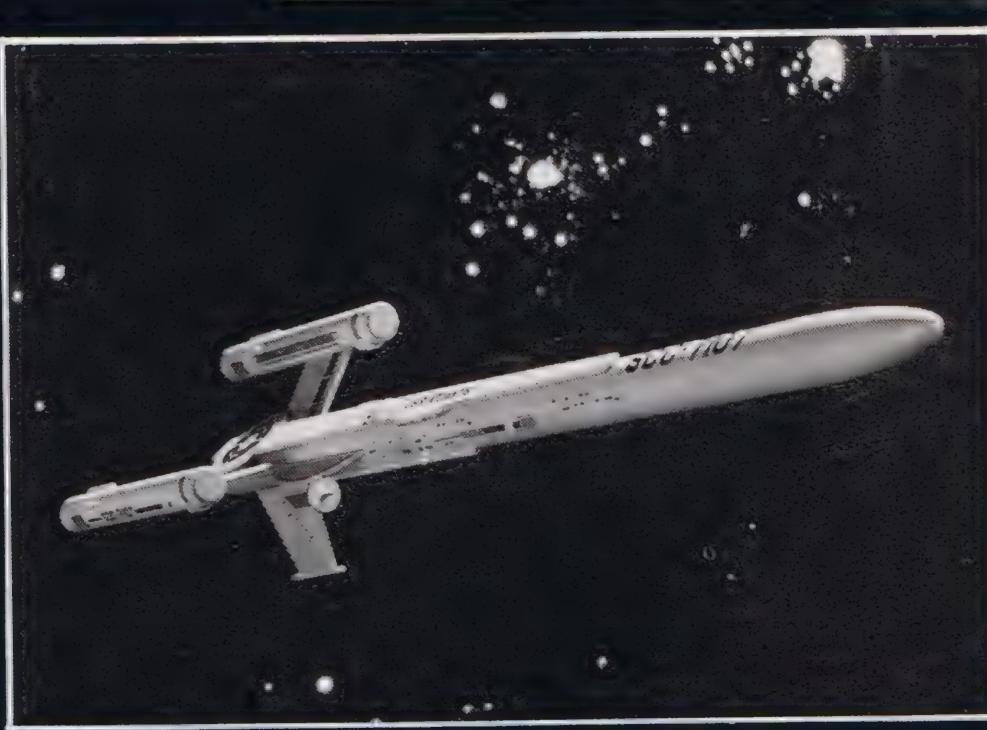
Space Model Gallery

G. Harry Stine is a NASA consultant and writer on topics ranging from model rocketry to space industrialization. He founded the National Association of Rocketry 20 years ago, and he was one of the rocket engineers involved in firing off the last of the German V-2s in the United States with Wernher von Braun after WW II. He is currently at work on a pilot for a television series set in the near future in space.



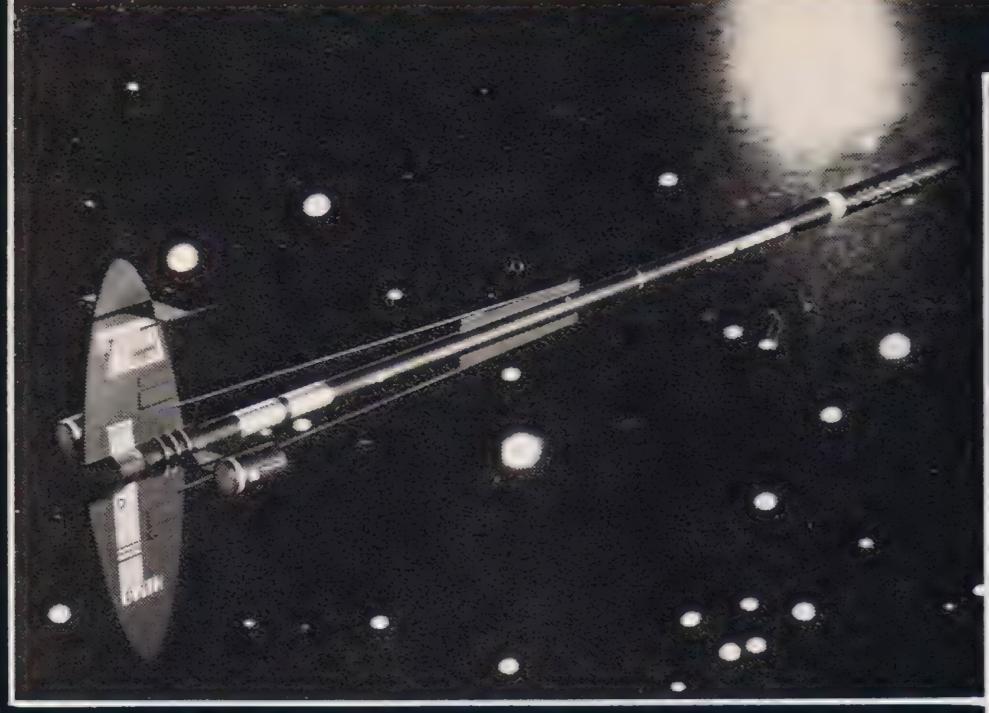
Below: if you'd rather fly for the other side, you can build the Estes flying model of the Klington Battle Cruiser. This flying space model is so accurate and realistic that tribbles won't go near it.



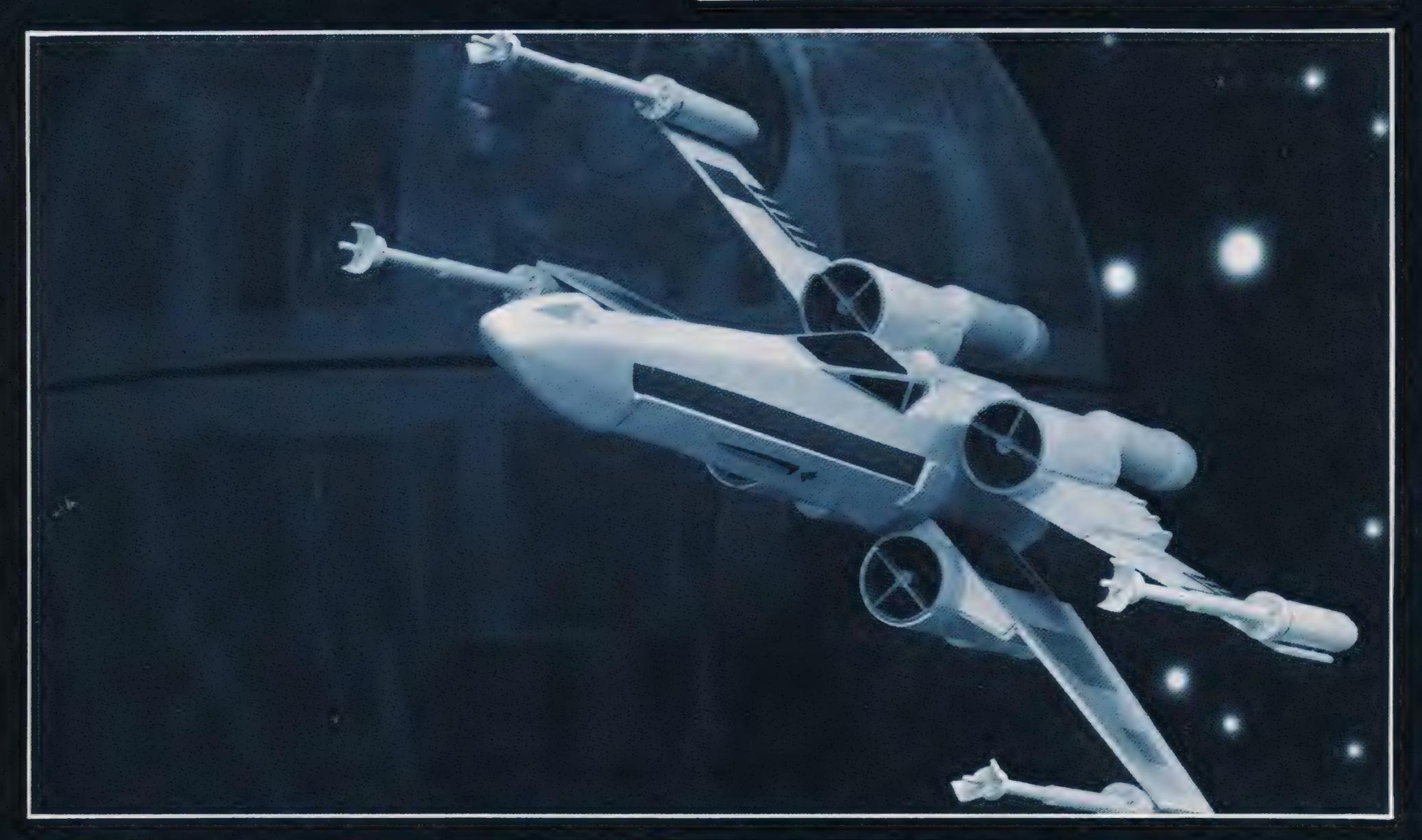


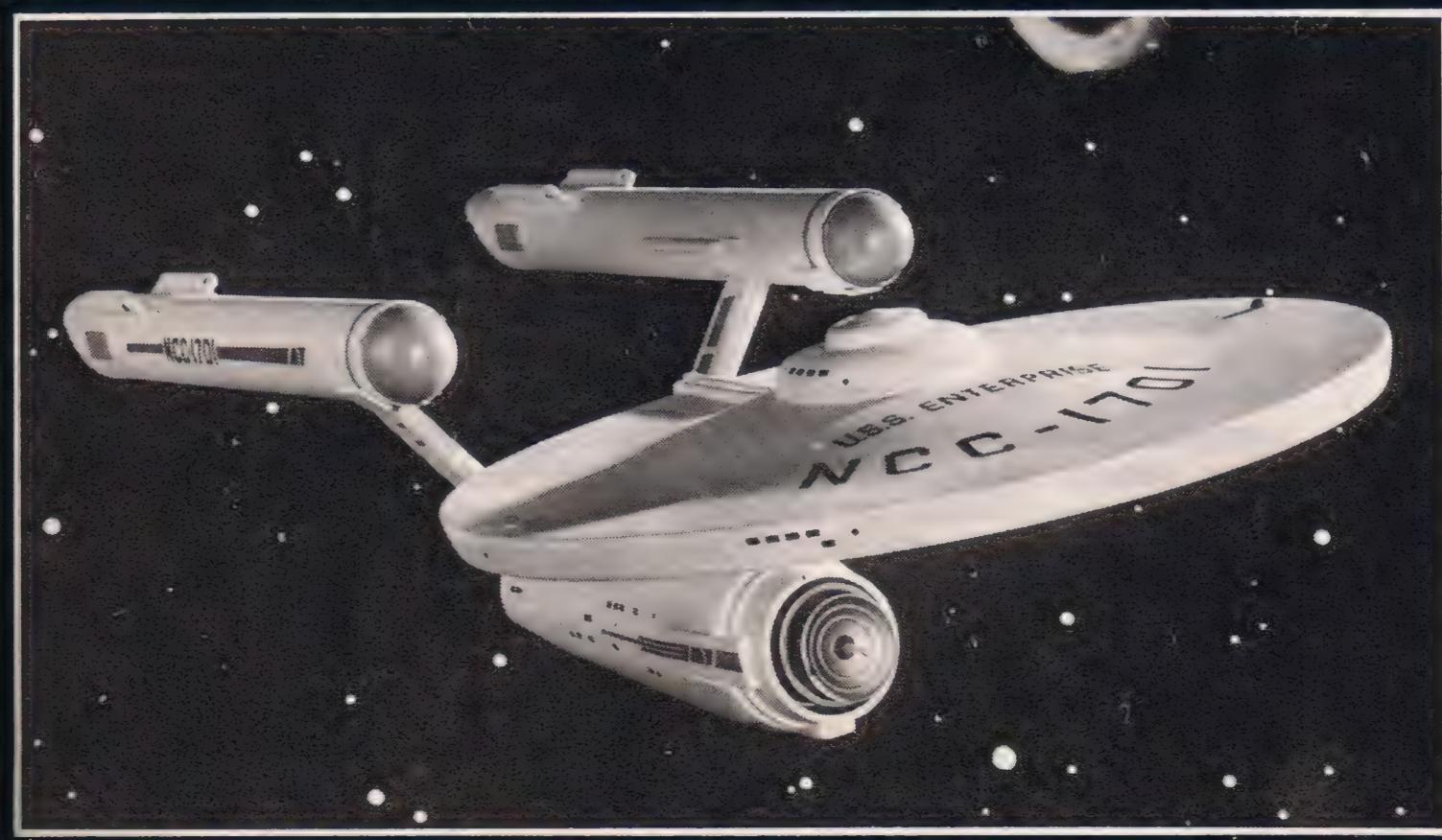
Patrolling the far-flung outposts of the Federation is the hyperfast starship like this sleek one, the U.S.S. Atlantis, a multi-mission star cruiser. Its mission is to patrol, escort, transport and to serve in battle operations. The model itself is only about two feet long, but it really flies. The Atlantis is available from Estes Industries.











Above left: the "Andromeda" kit is almost four feet long and uses a parachute for recovery. Above right: Centuri's "Super Kit," the E.S.S. Raven, a space research lab. Center: an X-wing fighter from Star Wars. It's nine inches long and comes in a prefab kit from Estes. Bottom: everyone's favorite—the U.S.S. Enterprise. Made from several light materials, the ship weighs only 3.8 oz.



(Continued from page 59)

plastic parachute for recovery.

I can still remember that chilly February morning when I first flew my Carlisle model rocket in a New Mexico cotton field. It was the beginning of a new hobby and a new sport, and it was an unusual beginning: unlike most other aerospace activities, it began with the flying aspect rather than the non-flying. It was a fortuitous combination of model aeronautics, pyrotechnics and professional rocket engineering.

Now, two decades later, more than 150 million space models have been safely and successfully flown just in the United States alone. Flying space modeling has risen to a high degree of reliability and forms the basis of a multi-million-dollar industry. Those initial Carlisle flying space models are on display in the National Air and Space Museum of the Smithsonian Institution in Washing-

ton, D.C., right alongside the rockets of Dr. Robert H. Goddard and Dr. Wernher von Braun's V-2.

But these flying space models are obviously quite different in some respects from their full-scale counterparts. The models themselves do share a number of common attributes, including non-metallic construction employing paper, balsa wood, plastic and cardboard. They use factory-loaded, solid-propellant rocket motors that require no handling or mixing of chemicals. But they are launched on a regular electrically ignited countdown just like the full-scale birds at the Cape. And, like the NASA space shuttle, model rockets are reuseable, containing recovery devices such as parachutes or gliding wings to return them gently and safely back to Earth so that they can be flown again and again.

Today there are more than 100 flying space model kits available from at least a

Left: a proud rocketeer at a recent NAR competition. Below: the liftoff of an *Excaliber Interceptor* resembles a special-effects shot from a Hollywood SF extravaganza.



half-dozen manufacturers. You can buy and build a flying model of the U.S.S. Enterprise or Luke Skywalker's X-wing fighter, or Darth Vader's TIE fighter, or the Eagle transporter from Space: 1999. There are models of other starships, interplanetary probe craft and even a UFO. All are flyable and all make outstanding Earthbound shelf models. Kits range in price from \$2 for simple beginner's models (and I recommend that you start with such a model to learn how it is done) and up to \$25 or more for large and complex models.

To power your craft, you can choose from 100 or more different types of model rocket motors with varying amounts of thrust and power available. Sizes of the most commonly used motor types have been standardized so that you can use one manufacturer's motors in another's kit. Costs range from \$.50 per motor to \$5. At least one motor is expended on each flight; they have been designed for only a single flight and they cannot and should not be reloaded.

For as little as a \$20 bill, it's possible to get yourself into the fun of flying space modeling. Most manufacturers produce starter sets that contain a simple model, a launch pad, an electric ignition system, several motors and a set of complete and comprehensive instructions. These starter sets are now available at most hobby shops and many discount stores. All you need is a battery, a bit of glue, the patience to read and follow instructions and some leisure time. You'll end up with a flying space model that will turn a Sunday afternoon into a session of flying fun in the local park, on the school football field, or some other open area.

This is definitely not kid stuff, although



the majority of flying space modelers are young people averaging 15 years old. It helps, however, if you are young at heart and have your eyes set on the stars, no matter how old you are. (I've been at it for more than 20 years, and I haven't grown tired of it as a hobby yet!)

Part of the credit for the phenomenal growth and outstanding safety record of flying space modeling is due to the National Association of Rocketry (NAR), formed with the birth of the hobby in 1957. There are members and clubs all over America. Until recently, NAR has been concerned only with the flying aspect of space modeling since this is where most of the activity took place. NAR offers insurance for its flying members at reasonable cost. It publishes the only monthly magazine devoted solely to space modeling: The Model Rocketeer. It safety-tests and certifies every type of model rocket motor produced to ensure that it meets the association's strict standards for reliability and safety. The organization also sanctions space model competition and certifies U.S. space model flight performance records. As part of the National Aeronautic Association, NAR is the U.S. representative for space modeling to the 51-nation, Paris-based Federation Aeronautique Internationale.

NAR just celebrated 20 years of safe, sporting space modeling with its 20th National Model Rocket Championships in Anaheim, California, this past August. Nearly 100 top-flying space model competitors from all over the United States showed up to compete for trophies and awards. During the five-day event, more than 1000 flights were made, some setting new U.S. records.

In September 1978, an official United States team of 15 flying space modelers journeyed to Jambol, Bulgaria, for the Third World Championships for Space Modeling. They competed in five categories against competitors from such places as Czechoslovakia, Bulgaria, Rumania, Yugoslavia, Poland, Holland, Spain, West Germany, Switzerland, Austria, Great Britain, Canada and the Soviet Union.

NAR is now in the midst of a major evolution brought about by recent SF movies, TV shows and magazines. The association is expanding its programs and activities to embrace the *non-flying* side of space modeling.

This activity evolved out of an official NAR flying competition event called "Plastic Model Conversion." The original intent of this event was for a modeler to convert a non-flying plastic kit of a rocket, guided missile, space vehicle, or starship for flight with rocket motors. This is not an easy thing to do with the Enterprise or even a Klingon battlecruiser plastic kit. Such designs were never intended for theoretical flight in an atmosphere and are not very stable aerodynamically, posing a real challenge to the modeler. Early activities in this category involved nothing more than simple conversion of the plastic kit to flying configuration. Then some highly creative space modelers who were turned on by Star Trek, 2001: A Space Odyssey and Star Wars began to combine different kits to create totally new space vehicle and starship designs in a procedure called "kit bashing."

It has now progressed to the point where any plastic kit is fair game for space model bashers. These creative people have combined parts from plastic rockets, airplanes, tanks, ships and trains with plastic packaging materials, plastic structural shapes, toothpicks, wood shapes, tubing and anything else of a non-metallic nature that would add interest to the starship model.

The results would bring a gleam of envy to the eye of any Hollywood special-effects person. And, in fact, some space modelers are now working on model starships for some of the new SF films in production.

So NAR is growing to embrace this new, non-flying space modeling field as well. Plans are under way for conventions, meetings, competitions, skill level improvement and an expansion of *The Model Rocketeer* magazine to include reports, kit evaluations, blueprints and photos of movie and TV starships, how-to articles and other communications of interest to the rapidly growing universe of space model builders.

In the meantime, if you can't go to the stars in reality, and if you can't live in a space colony at L-5, you can at least get something off the ground. Get involved with the new and expanding programs of NAR (which may soon have to change its name to the National Association of Space Modeling). Visit your local hobby shop and pick up one of the outstanding non-flying plastic kits now available or a flying space model starter set. Today's models of either variety do not require outstanding manual dexterity to build. And they can provide you with a better understanding of star flight, a conversation piece for your bookshelf, or a Sunday afternoon of fun.

NAR may be contacted for membership information by writing to NAR Head-quarters, P.O. Box 725, New Providence, NJ 07974.

Interplanetary Excursions

(Continued from page 54)

In other words, if you think you're up to it, you'll have to explore it yourself. And probably by flier, since pressure is pressure, plus the fact that equipment good for several days in temperatures that can melt lead tends to get pretty expensive, even at no-frills group rates.

If you haven't yet asked (or figured out) why anyone thinks that this unvisited, virtually invisible volcano is there at all, then I.E.I. is not at all sure that you should even make the trip. The answer, of course, is radar. The technique is a bit fancier than that used to monitor terrestrial aircraft, though the result is still a long way from a photograph. Dick Goldstein has been bouncing signals off Venus for several years with the big dishes at Goldstone in the Mojave Desert, as have Don Campbell and friends from Arecibo in Puerto Rico. By the time you read this, more data should be piling up from a radar aboard the Pioneer Venus spacecraft, circling the planet, and far better results should come in a few years if NASA can get started with its Venus Orbiting Imaging Radar project, which would use synthetic-aperture techniques to really jack up the resolution. But there are plenty of grounds for excitement.

Even the early studies showed that something was there. "Beta" was originally just a label stuck on one of several spots on Venus (Alpha, Beta, Gamma, etc.) that produced particularly strong, or "bright," radar returns. (The method used was pretty interesting, but it could easily fill up a whole issue of STARLOG, given the problems of unscrambling a signal reflected from a rotating planet to an antenna on a more rapidly rotating planet, especially when the target planet is a sphere that sends most of the signal off in every direction except back to the receiver.) Later on, Goldstein did Venus again, this time using two antennae phaselinked together in a technique called interferometry that was able to provide approximate elevations—heights—of features on the planet's surface.

It was early in 1977, after carefully plotting the elevation contours on Goldstein's radar images, that Steve Saunders and Mike Malin of Jet Propulsion Laboratory first got an idea of what Beta might really represent. They found a series of roughly concentric ascending elevations, rising toward the center like a mountain peak, along with the kicker: a dip in the middle, just where one would expect to find the caldera, or crater, of a volcano. (Beta also turned out to strongly depolarize the reflected radar beam, implying the sort of rough surface that could characterize a volcanic region.) Since then, Goldstein has repeated the exercise—though the data have not yet been fully analyzed—with a three-antenna hookup

that should give a still more accurate picture.

So how big is Beta? (From here on out we'll use the name to refer to the volcanic feature rather than the larger spot of which it is a part.) Judge for yourself. The radar map above is marked off in contours at five-kilometer intervals; in other words, moving from one contour line to the next represents a change in elevation of five km. You can see the "zero" line, then follow it inward and upward to five km, then on up to 10, with the dip in the center. The inset photograph, shown to the same scale, is Olympus Mons!

As Malin figures it, Beta spans about 700 km or more. Olympus Mons on Mars is about 550. Beta's central depression, Malin estimates, is about 90 km across, also larger than that of its Martian counterpart. Olympus Mons, as has already been pointed out, would touch all four sides of New Mexico; Beta, by the same comparison, would cover all of New Mexico right out to the corners, so that parts of it would spill over perhaps 100 km into Colorado on the north, Arizona on the west, Texas on the east and southeast, and even a bit of Mexico to the southwest.

Mars chauvinists will be glad to know, however, that Olympus Mons still holds the altitude trophy, towering about 25 km above the Tharsis plain. This is not entirely surprising, since Beta a-borning would have been held down by more than twice the gravitational attraction, combined with hellish temperatures that would have produced plastic rocks perhaps incapable of accumulating to great heights. Yet another factor could have been chemical erosion like nothing known elsewhere on the inner planets: sulfuric acid has repeatedly been identified in the clouds of Venus, and there have been reports of hydrochloric and hydrofluoric acids as well. (Five Pioneer Venus probes and perhaps a pair of Soviet Venera landers should have checked out the atmosphere a lot better by the time you read this, and you might consider the results in your travel plans.)

On Earth, of course, such peaks have almost no chance at all. Wind, water and a still-churning interior conspire to make molehills out of mountains from the day that they are born. One planetary geophysicist has a pet name for the fate of terrestrial mountains—he calls it "Ozymandias Syndrome." Remember Shelley's poem of the traveler encountering two huge stone legs and a half-buried head in the desert, all that remain of some once-great idol? And the nearly eroded inscription, now a hollow, ineffectual mockery: "My name is Ozymandias, king of kings:Lookon my works, ye Mighty, and despair!"

Buck Rogers

(Continued from page 23)

"death ray." A few years previous, Soldiers and Time magazines similarly applied the name "Buck Rogers" to new laser devices.

Throughout the years, *Buck Rogers* has brought a special magic to space-minded youngsters around the world: it offered inspiration to millions of kids who would someday strive to pilot their own space-ships. Gordon Cooper, the astronaut aboard the one-day Mercury-Faith 7 mission on May 15-16, 1963, stated that the blast-off was the realization of a boyhood dream—a dream formulated in Shawnee, Oklahoma, by *Buck Rogers* comics.

According to Time magazine, former astronaut John Glenn "read Buck Rogers" as a youth. When writer Robert Sherrod interviewed America's first space-walking astronaut, Edward H. White, in an effort to trace that spaceman's childhood dreams, White replied that indeed his boyhood fantasies were of Buck Rogers proportions. Astronaut David R. Scott, who flew aboard Apollo 9, told Sherrod that, "Buck Rogers was an important figure to me;" and, according to the Los Angeles Times, former astronaut Neil Armstrong, now a professor of aeronautics at the University of Cincinnati, insists that he still is fascinated by Buck Rogers' view of space.

In 1979, 50 years after his first appearance in print and over a decade since his disappearance from the comic strips, Buck Rogers still wields his influence well. Jerry Pournelle's new book, That Buck Rogers Stuff, edited by Gavin Claypool, is a collection of his science articles. Space shuttles, laser weapons and aerodynamic prototypes are still considered offshoots of the 25th century's finest warrior.

Buck Rogers, it would seem, was always something more than a morning's worth of entertainment for young readers. Years before the popularization of science via SF films, TV shows such as NOVA and future-minded school programs, Buck Rogers succeeded in stretching minds to their most fantastic limits, in firing imaginations and in offering scientific research as the key to unlocking that most fantastic and compelling of all portals, the door to the future. *

Note: If you would like to know what you can do to help celebrate Buck Rogers' 50th Birthday Year, write to: Buck Rogers Rocket Rangers, Earth GHQ, Section CW2, Attention: Robert C. Dille, Adjutant, Route 1, Box 235, Carmel, CA 93923. The various daily and Sunday episodes are listed by BR researchers, Eugene R. Seger of Detroit, Michigan, and George S. Elrick, of Glenview, Illinois, in The Collected Works of Buck Rogers in the 25th Century, Revised Edition, edited by Robert C. Dille, the younger of John F. Dille's two sons.

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ZIP

THE MAGICAL TECHNIQUES OF MOVIE & TV SPECIAL EFFECTS



PART XV: BRICK PRICE-THE MODEL MAN

Series Edited by DAVID HUTCHISON



By DAVID HOUSTON

Brick Price hurries into his shop apologizing for being an hour late; he has been stuck at Paramount discussing a space-helmet design with Gene Roddenberry and Richard Taylor.

He needn't apologize. During that hour his second-in-command, Darryl Anka, has shown me around the overcrowded shop where the intriguing projects in progress include building the miniatures for NBC's Project U.F.O., fabricating the hand props (hidden from view) for the Star Trek movie, pre-production sketches for Martin Landau's forthcoming high-budget SF epic, models for the Canadian remake of Things to Come, props for The Incredible Shrinking Woman, dinosaurs, machinery to be stop-motion animated, storyboards of a spectacular attraction for a space theme park (till now kept secret) and much more

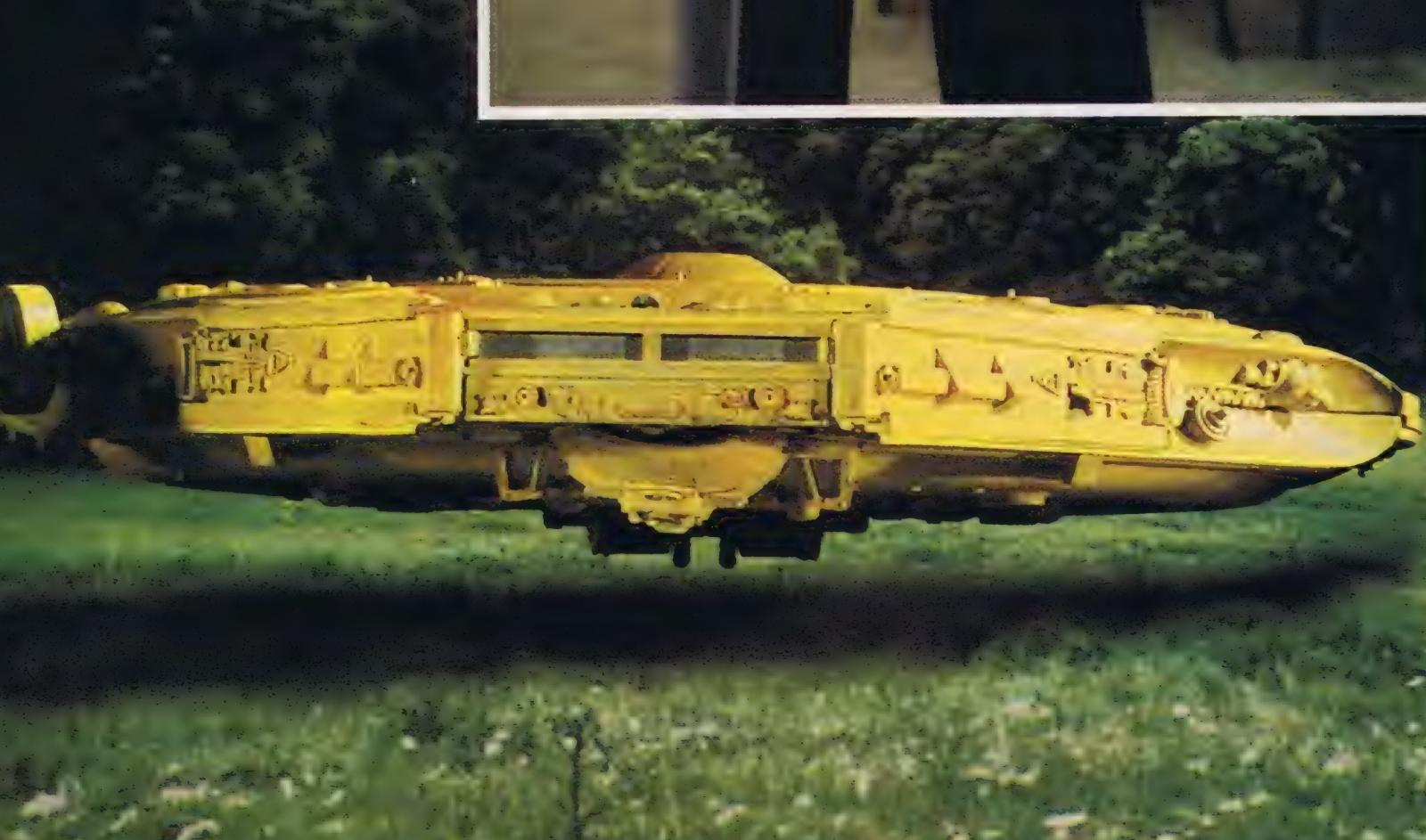
—all of it of interest to science-fiction enthusiasts.

It's sunset; the workday is officially over, but someone's still running a noisy compressor; so we've taken chairs to the cool parking lot where we will talk about this young entrepreneur's new company and its current and projected projects. Meanwhile, an employee is winding down by sending a radio-controlled miniature racing car careening around the lot at 35 mph.

"It goes back to around 1963," says Price, "when my father told me that if I didn't quit fooling around with motorcycles, cars, women and model planes, I'd never make anything of myself." The fact that he had won a Revel Model Car contest at the age of 15 failed to impress his father—a physicist from CalTech working at the Jet Propulsion Laboratory in Pasadena, California. But the prize got Price a job with Revel. He made models that were later pho-

Right: Brick Price with the "inverted teacup" UFO. The UFO was designed from descriptions of a sighting detailed in Project Bluebook. Mr. Price spent a good part of Xmas day in 1978 preparing the model for filming. The landing gear were rigged to pop down by spring tension. The release was operated by radio control since the original monofilament line pulled by hand would move the model during filming. Below: from the first TV season, this UFO had a slight snout to it. The difficulty was to keep it from looking too much like Han Solo's ship from Star Wars. The nose was rigged with front projection material to allow for the insert of the live-action film of the aliens. Opposite page: Brick Price at his desk, which just happens to be a miniature storefront as well.





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tographed and printed on the boxes of new model kits. "I thought the pay was terrific—around \$25 per model."

Some years later, Brick Price worked at Hughes Aircraft as a technical designer and illustrator. "I worked on Surveyor and ComSat, and I really enjoyéd all the space things. I've been a science-fiction buff all my life. My father has a collection of science-fiction magazines which dates back to the turn of the century.

"When I was drafted in 1966, I went to electronics school because of my background at Hughes. For some reason, they assigned me to Vietnam to be a gunner on a helicopter, but I had a temporary layover in San Pedro—where they discovered I had artistic ability and could fabricate things."

The temporary layover became permanent. "I started doing signs for people, and

that led me to the film department, where they were doing some crude animation. But I have always been a Disney fanatic, so I got them into *real* animation, and told them there were interesting effects they could get by using models. That was my introduction into movie work, but it wasn't until some years later that I got involved in it again.

"In '68 I won a model-building contest at the L.A. Sports Arena, and a fellow by the name of Ray Hoyn said he wanted to write a story about it for *Model Car Science* magazine. I said I thought I could do my own story. It took a considerable amount of time because I had never written an article before, but he liked it and he ran it as a cover story. He hired me as a technical editor, and I started answering all the model questions that came in from readers. I went from there to another magazine, where I was the editor, and a couple of years later I bought International Modeler magazine—which I have been publishing ever since.

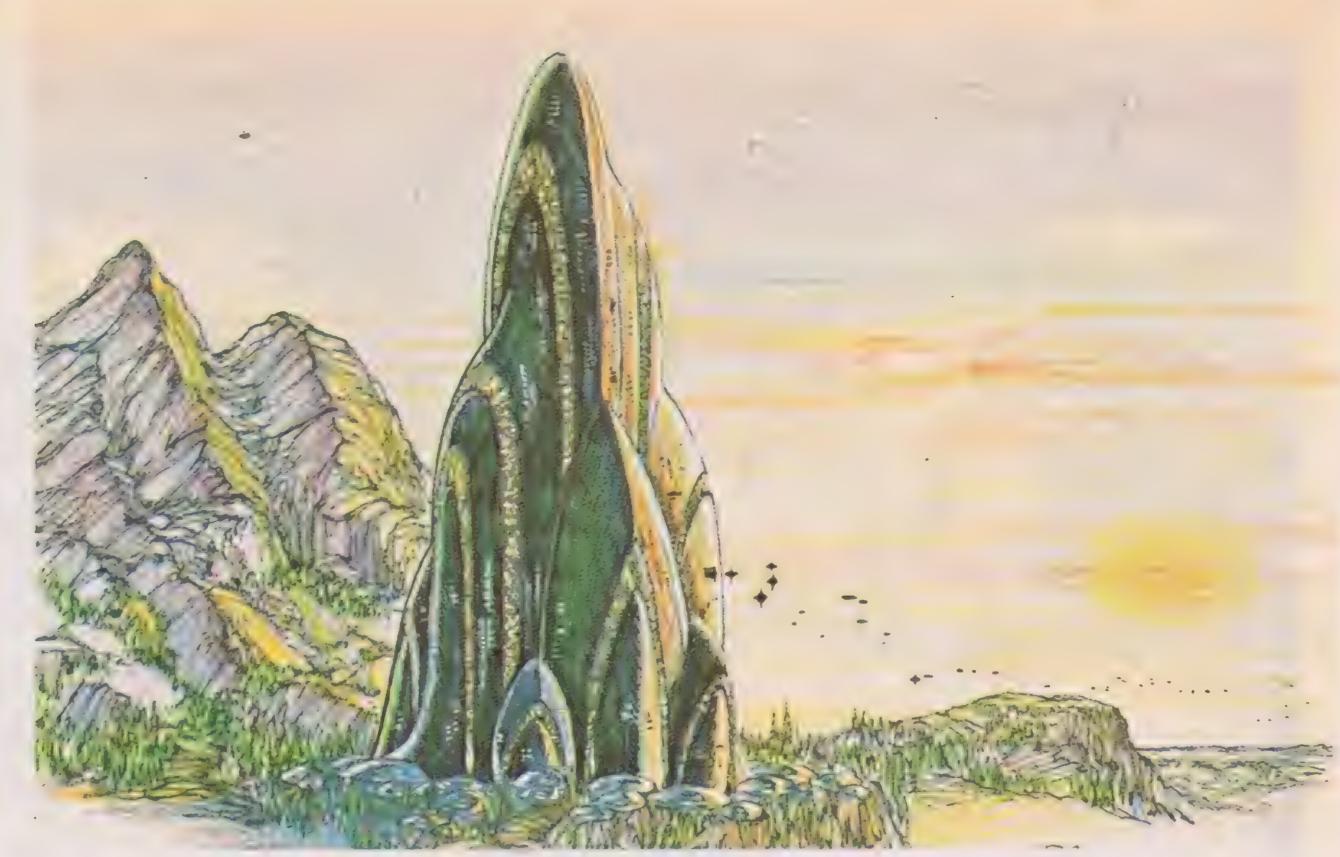
"It's only natural that when people are looking for model builders they go to the magazines first." From this natural contact, Price was contracted to supply models for commercials, "including an entire freeway system for Exxon and the spaceship for a new Ford Futura ad," and models for magazine ads through an agency which hired him as a creative director.

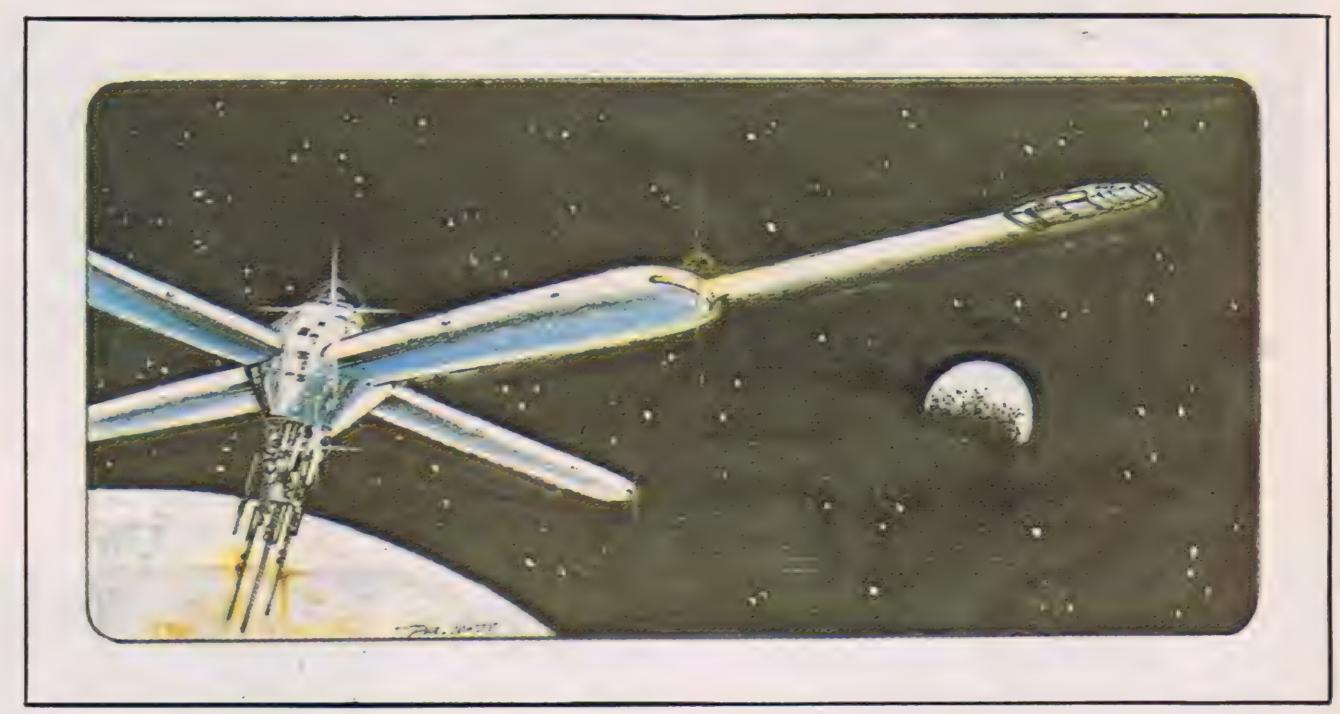
"I kept just a skeleton crew at my own shop and whenever a big job would come in, I'd staff up to meet the demand."

Also during these years of miscellaneous jobs, Price worked for Clymer Publications "filling in holes around other jobs." He wrote 33 books on how-to-do-it subjects.

"Then a couple of years ago I saw Star







Left: The Brick Price Movie Miniatures shop just prior to the first of the company's planned two moves to larger facilities. Left to right are: Cory Faucher, Paul Laxineta, Bruce MacRae, Alan Faucher, Ron Pusich, Laura Price, Tracy Faucher and Price in front. Top: "Inhabitants Typical City" is part of a storyboard for a SF film project under development by BPMM—an entire city in a single structure. Note the stained-glass strips (not religious) and the black dots which are a fleet of ships departing the launchway and streaming toward the horizon. Above: "Andromeda Project," an artist's concept of the two-man space flight simulator booth. This view is never actually seen by the participant, who is "in" the small ship just ejected from the space station. The participant "sees" the space station on his return from the adventure.

Wars. I got the feeling that there was going to be a sudden push in this direction. I went to see Grant McCune (chief model builder for Star Wars) and interviewed him for International Modeler. Grant and I became good friends."

Our talk is interrupted by the radio-controlled missile on wheels which skids through a water puddle and bangs into a steel post. After seeing that no damage has been done, Price laughs and recalls, "Almost every time I'd go to Industrial Light and Magic (John Dykstra's company, which is now known as Apogee, where Star Wars effects were done), the crew would be out in the parking lot racing their R-C cars. Unless you knew those people had been working day and night, it would look like they never did anything but play with their toys. I started going down to race with

them. This irked them—they couldn't often beat me." Price is, among many other things, a designer of the bodies and mechanisms of the R-C cars, which sell for around \$250.

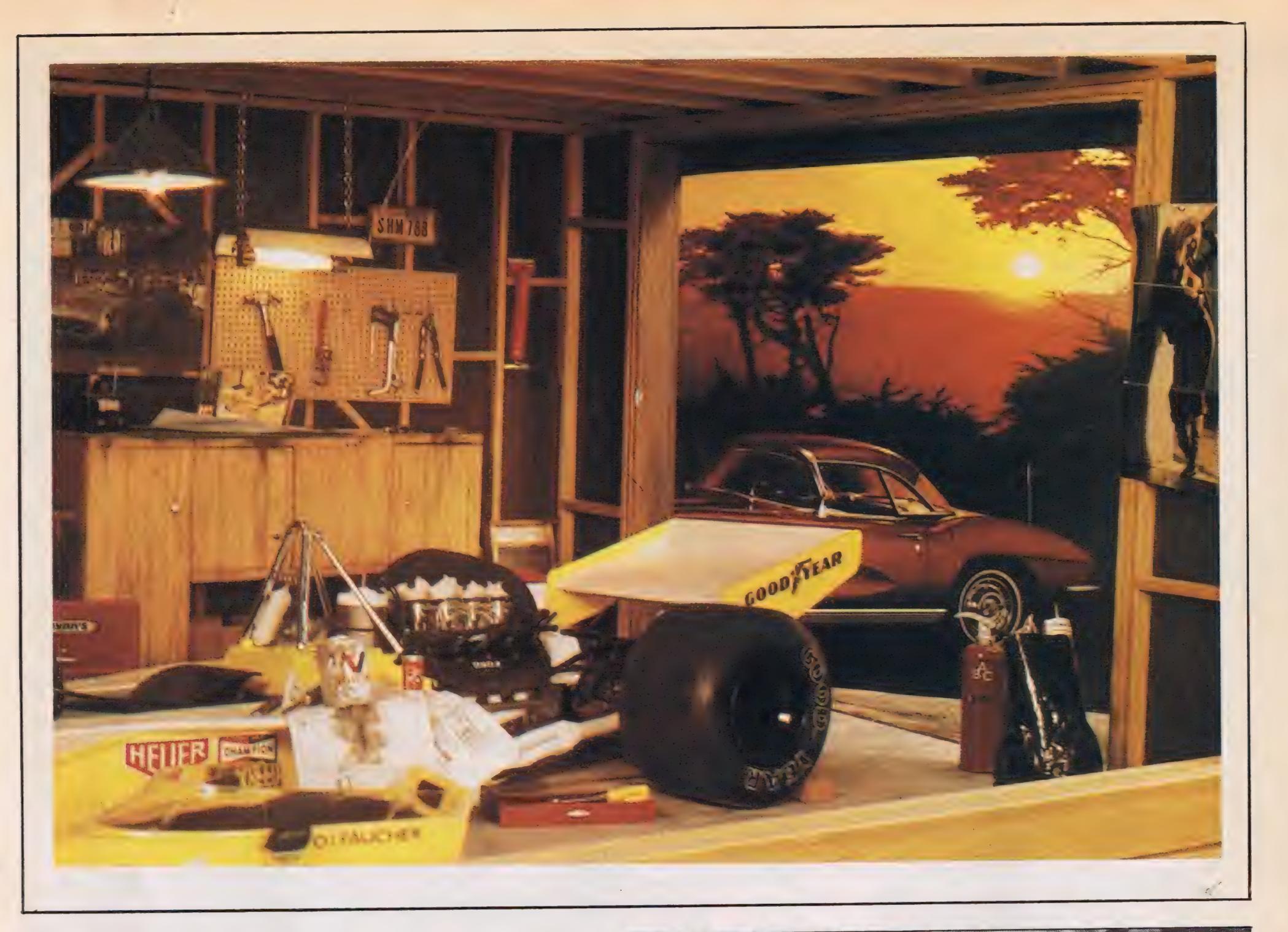
"I was at ILM one day when Jack Webb called Grant and asked him to do some model work. ILM was too busy, and it looked like the work would have to be delivered on too tight a schedule. So Grant recommended me. I talked to Webb. He said, 'How fast can you get to my office?' I said, 'As fast as my car will carry me.'

"Fortunately I had a couple of models in the car, and I walked into Webb's office carrying them. The next morning, at 9 a.m., he put me on contract, and I was working on the first model by noon." Webb's show, of course, is *Project U.F.O*.

"At first I thought I could do all the

models myself, because I had a fair amount of lead time. I started on November 18 and he wasn't going to begin filming until February. But they stepped up the number of models they wanted for each show and began to demand more activity in the models. They wanted things to open and close, lights—and than meant special circuitry. I started trying to find people to hire.

"One of the people who came in was Darryl Anka, who had accidentally locked himself out of his car and had to borrow my phone to call for help. If I had relied on strictly first impressions, I suppose I'd be in trouble. One thing about him that impressed me tremendously was his ability to comprehend mechanical shapes and then draw them quickly. He was the first person I hired, and he has proved to be a great asset to the company. The second to come along



was Cory Faucher, who had won several model-building contests. Cory brought in his brother, Alan." The company now consists of these three plus Brick's wife, Laura, Ken Swenson (who worked with Douglas Trumbull on Close Encounters), Ron Pusich, Mike Jones, Bruce MacRae, Dale King, Pete Parros, Tracy Faucher, Paul Laxineta and Robin Leyland.

A good percentage of this crew—the youngest of them 18, the oldest 36—is well over six feet tall. Price, not what you'd call a tall man, refers to his shop on occasion as The Land of the Giants.

Frequent moves and expansions of crew and workload have led the company to spread out from the 200 square feet they occupied a year and a half ago to the 3000 of their new facility. The company's income has climbed from \$50,000 to \$500,000 a year.

"If that sounds like a lot of money, I'd better tell you I lost \$28,000 last month because of the expense of gearing up for additional work."

The mainstay of Brick Price Movie Miniatures is currently *Project U.F.O.* (Price only builds the miniatures; they are photographed elsewhere, sometimes with less than satisfactory results.) "I can give you pros and cons about the show, about *any* TV show, really, because the budgets are so low and time is too short. The only show with a budget worth a damn is *Galactica*, and even theirs is limited. I think they're doing a tremendous job, though, with what

Above: detailed diorama designed to show off a 1/12 scale car. Door and wall studs are cut from 1/8inch basswood. The craftsmen at BPMM are model car enthusiasts and wanted a proper showcase built. Every tool, light or fixture is exactly 1/12 scale. The garage door opening is thus about 8" X 10"! Right: model builder Mike Jones at work on a Project: UFO flying wing.



they've got.

"Webb has given us a better budget this season, so we're building bigger and better models. Last season, all of the models were under 20 inches long; this year, so far, our smallest is 24 inches long and our largest is four *feet* long."

Star Trek—The Motion Picture is taking almost as much of the company's time as U.F.O. "Originally we talked to Star Trek about doing miniatures. There turned out to be some problems with that, but we may yet supply some." (The principle miniatures

are being built by Magicam, a Paramount subsidiary.) "Part of the work we have calls for us to build belt buckles, hand props, phasers by the hundreds. We're also making the new tricorders—which have more functions than the TV version—space helmets and special props that require lights and computer circuitry."

A problem has arisen with the belt buckles. They're made of plastic and are hollow (some have operational lights); they're supposed to be medical monitors that constantly register the wearer's state of health. Fine.

S COURTESY BRICK PRI



But as it happens, the railing on the bridge hits most of the *Star Trek* regulars right at their waists, and during shooting, boxes of crushed belt buckles arrive daily at Price Miniatures for repair.

The new phasers and tricorders are smaller, more miniaturized and sleeker than the old TV versions. They contain complex micro-circuitry that operates tiny bright lights sequentially to give a much more functional look than before. "We wanted to be absolutely sure that none of it looks like it came from Radio Shack," says Darryl Anka. "To my eye, that mission was accomplished. The new hardware all looks unmistakably *Star Trek*, only more detailed and futuristic than previous designs.

"We were pulled into Star Trek kind of late," Price explains. "We started work only three weeks prior to the first day of shooting. There were times when we'd start to work at seven o'clock in the morning and work through till three the next afternoon. I wouldn't want to do that again, but this is probably the only kind of job where I'd be willing to work those kind of hours."

The special-effects facility for Star Wars II has begun work in the San Francisco area. "They contacted us recently, and it seems a good possibility that we'll be doing some work on Star Wars. They're going to be working on two, maybe three, sequels at the same time, and they'll need to subcontract out some of the work."

It's been a sort of open secret that Martin Landau has been seeking financing for a high-budget science-fiction film. He hoped originally, according to various reports, to make the space epic in 3-D, but it now seems likely that that has proved impractical. "We have been doing pre-production drawings of ships and aliens for Landau," Price says. "With his background in science fiction, his interest in it and the funding he has, I think this could very well be one of the better space films, right in there with Star Wars

and Star Trek."

Reversing their usual method of creating things in miniature, the Price shop is supplying some oversized items for Universal's *The Incredible Shrinking Woman*. At one stage of her shrinkage, the film's star, Lily Tomlin, wears Barbie Doll clothes. Price is making the buttons, among other things. "This is actually harder than miniaturizing; it goes against all our instincts. When you make things grossly oversized, they have to be sloppy as hell. When you blow up a Barbie Doll purse, made of hot pink plastic, you see the mold marks, flashing, all the ragged edges."

Not all of Brick Price's science-fiction work is being done for films. "A company in the San Fernando Valley contacted us. They want us to design a space theme restaurant. It's going to be situated on a mountaintop and will be somewhat saucerish in shape. It will revolve, about once an hour, and is to be mounted on what will appear to be a beam of light—in reality the elevator shafts. We'll be supplying special effects, some miniatures and possibly some 3-D films for backgrounds."

Surely the most ambitious of all Price's projects, though, is one that takes the company into a completely new realm. "For the past, oh, 15 years, I have been interested in amusement parks. When I was a kid, I went to Disneyland every chance I got. I've always had a hankering to do some design work for parks, but it always seemed like blue-sky stuff." It doesn't seem so blue sky anymore.

The sequence of events begins with Price and Anka's development of an idea for a space-flight simulation chamber — a two-man booth. "People would pay maybe \$5 and experience the ride of their lives. It should be profitable enough and small enough to fit into any shopping mall or amusement park."

Inside the booth there's a wide screen on

The "flying teacup" being photographed. On the dolly is Don Weede with Wally. Gentleman and Brick Price to his left. The camera is rigged for an underbelly shot.

which is projected: a true (Polaroid) 3-D color image of attacking spaceships; a hit on "your" ship; a screaming power-dive down through the atmosphere of an alien planet to a near crash; a last-minute recovery; and, finally, defeat of the alien ship. At one point, after your ship has sustained a hit, a mist enters the booth, out of which emerges a holographic image of the taunting alien out to destroy you. The sound comes from a noise-free computer storage system that can produce rumblings below the range of human hearing—rumblings you only feel.

"From the tests, the effect gives the viewer true vertigo. In fact, we're building in some fail-safe measures so you can choose the intensity of the experience. Each booth's computer will have a variety of programs, so you can enjoy it a number of times, a different experience each time."

Through acquaintances involved in feasibility studies for Disneyland, Magic Mountain and other parks, Price made contact with a Japanese company interested in buying 100 of these units. "Then they wanted us to develop essentially the same thing for a 200-seat theater. That led us to another Japanese company and a company in Munich, Germany, which is interested in our doing some designs for parks based entirely on science-fiction themes. There are plans for space parks in Munich and Detroit."

In addition to projects mentioned so far, Movie Miniatures is developing 1/20th scale dinosaurs for museum dioramas, designing book jackets using photographed models, doing cartoons to advertise "Kryptonite" (another Superman spin-off), working with Carl Sagan on his Man of the Cosmos PBS-TV series, supplying props for One Knight Stand (a new George Burns movie), continuing to make models for the kit companies (Revell, Bolink and AMT), supplying animation and models for various commercials...and designing the facade of their own new plant, which will look like an entire city block miniaturized to 1/12th. scale.

The radio-controlled race car screeches to a halt in front of him, and Price takes the controls. "I love toys," he says, laughing. "The way I look at business is that if you don't love it, you have no right working at it. I see too many people on the freeways, guys who are falling asleep at the wheel or enshrouded in cigar smoke—people who work at boring 9-to-5 jobs and generally look pretty miserable. I'd much rather be happy and poor than work at something I don't enjoy."

From all indications, sticking to that conviction is leading Brick Price to the enviable position of being both happy and rich. The one-time writer and editor has come a long way since he saw Star Wars.

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Superman

(Continued from page 46)

was just superb. It made me more determined to do my absolute best work, because I knew what he was after—quality."

Finishing Touches

The work proceeded and was enjoyed until it came time to conclude the movie. Donner and his company had seen the film through Krypton, Smallville, Metropolis, Lex Luthor, Lois Lane, nuclear bombs and an earthquake to end all earthquakes. The final problem was how to cap it all off. Toward that end, a top-secret meeting convened.

"Superman's last feats involved the earthquake, but we needed those to be, in an odd sort of way, the most minimal," declares Donner. "We needed a final feat that would be so grand and so big in a humanitarian way that it would dwarf everything that had gone before."

"I suggested that the ending that you see be put in," Reeve admits. "It was based on a suggestion from Richard Lester. He said, 'You've got to have the protagonists go through some heavy stuff.' And I felt that Superman had to have a falibility if his achievements were to have any importance. In the original script, you lose track of the love story. It was just a finale of standard explosions and derring-do. We needed to add a story of humans. I made a decision early on that my characterization of Superman would be so strong that he could be vulnerable; that he could reach out and make a commitment. That commitment had to be tested."

Christopher Reeve left Superman on September 25, 1978, while Richard Donner got down to the nitty-gritty of post production. John Williams, the musical maestro, made famous by his scores for Star Wars and Close Encounters, attacked the challenge of Superman—The Movie with a fervor characteristic of his captivating scores.

"It's all John Williams," Donner proudly declares. "It's not a classical drift and it's not spacey, but it's all of that and more. It's Williams in the past, which I've loved, and Williams in the present, which is crazy, Williams in the future, which is great. He's done more music for this than he has ever done in his life. And it's beautiful."

Around the world, Superman is thrilling audiences, but at Pinewood Studios, work on Superman II goes on. The last screen image of Part I seems to sum up the magic of the Superman production: an extreme close-up of the strong, smiling face of Christopher Reeve. He looks directly at his viewers as if to say, "Thanks for watching." Then, a barely perceptible wink, the camera draws back and he flies into the sunset.

Ion Propulson

(Continued from page 53)

wander through...to go where none has gone before.

The concept of a spacecraft utilizing an ion rocket to propel itself has been around for a long time. The genius rocket pioneer R.H. Goddard proposed it back in 1906 when he realized during his research that accelerated ions might be the answer to the problem of attaining high-exhaust velocities. Aside from academic and sciencefiction interest, progress on the idea was virtually nonexistent until the first chemical rocket blasted into space in 1957. During the subsequent development of the space program, serious efforts were focused on the specific technical details. The goal was to develop a practical ion-propulsion system which could provide the extremely high-exhaust velocities necessary for space exploration. It was in 1960 that H.R. Kaufman, at NASA's Lewis Research Center, developed the first practical engineering design for the heart of an ion rocket—an electron bombardment ion thruster.

An ion rocket gets its push in the same way as a chemical rocket-from high-exhaust velocities. The heart of an ion rocket, the ion engine or thruster, with its complex design of anodes, vaporizers, neutralizers and accelerators, has no moving parts. Shaped like a large coffee can, each compact engine is about 15 inches across and 10 inches high. Mercury vapor is fed into an ionization chamber (similar to the combustion chamber in a chemical rocket) where its atoms collide with a stream of subatomic particles. These collisions knock electrons from the electrically neutral mercury atoms and change them into positively charged particles called ions. Billions of ions pass through accelerator grids which give each one a tremendous burst of speed on their way into space. Chemical rockets have typical exhaust velocities of about 3,000 meters per second. Ions leave an ion rocket at over 30,000 meters per second! As each ion speeds away in one direction, it gives the rocket a tiny push in the opposite direction. Instead of thundering flames and smoke, these billions of accelerated mercury ions speed away silently, emitting a soft blue, almost surrealistic glow.

Unlike chemical rockets, which give a big push for a short time and then coast, ion rockets push a spacecraft continuously. Without the drag of friction or gravity, the billions of tiny shoves from the ions steadily increase the speed of the spacecraft. Powered by a half dozen ion engines, a spacecraft can increase its speed over 200 miles per hour each day. After 1,000 days, the spacecraft will be silently, smoothly speeding at over 200,000 miles per hour!

Mercury was chosen as the ion rocket propellant because, not only is it easy to

vaporize and ionize, it is also unusually dense and easy to store on the spacecraft. Mercury is more than 13 times heavier than water. All the mercury needed for a spacecraft powered by a half dozen ion engines running continuously for several years could be stored in a beach-ball-sized tank.

Ion rockets run on electrical energy. In space, solar energy is plentiful and easily converted into electricity by means of solar cells, small tiles of a glass-like substance which are highly sensitive to light. When a solar cell is exposed to sunlight, it acts like a tiny battery. Thousands of these cells wired together into a solar array make a powerful electrical energy supply, energized by free and plentiful sunlight. Interplanetary spacecraft usually only need a few kilowatts of power. However, an array of six ion engines uses over 30 kilowatts of power when they are all running. This means that ion rocket-driven spacecraft must have large solar arrays. Such large arrays have to be folded and packed in order to fit the spacecraft into the space shuttle for launch. Once the shuttle reaches its low Earth orbit (approximately at an altitude of 300 km), the IUS boosts the spacecraft into space where the solar arrays automatically unfold and energize the ion rocket.

To become a reality, Kaufman's ion engine has awaited the development of these large, lightweight, deployable solar arrays as well as high-power transistor technology and the shuttle/IUS. It has now all come together. The ion rocket has arrived. During the last 15 years, the development effort has been increasingly extensive. In the early 1960s NASA launched a test satellite (SERT I) which proved that Goddard's original ion-propulsion concept could work. In 1970 another satellite (SERT II) was launched carrying working ion engines which demonstrated the long-term operating capabilities of ion engines in space. In eager anticipation, NASA is now designing exciting new missions to use the ion rocket, missions that were not possible before using chemical rockets. Ion rocketpropelled spacecraft have been designed for missions to Mercury, Saturn, Mars, comets and asteroids, as well as many ambitious Earth orbit applications.

There is a bright future for the ion rocket in our exploration and exploitation of space: investigation of the planets and their moons, solutions to the mysteries of comets and asteroids, space power stations, Earth satellites for improving the quality of life, huge space antennae to contact extraterrestial intelligence, space debris collectors, manned stations for industrial and science purposes and, eventually, entire space colonies. This mind-bending host of future activities is beginning for us now with the tremendous capabilities of NASA's new ion rocket.



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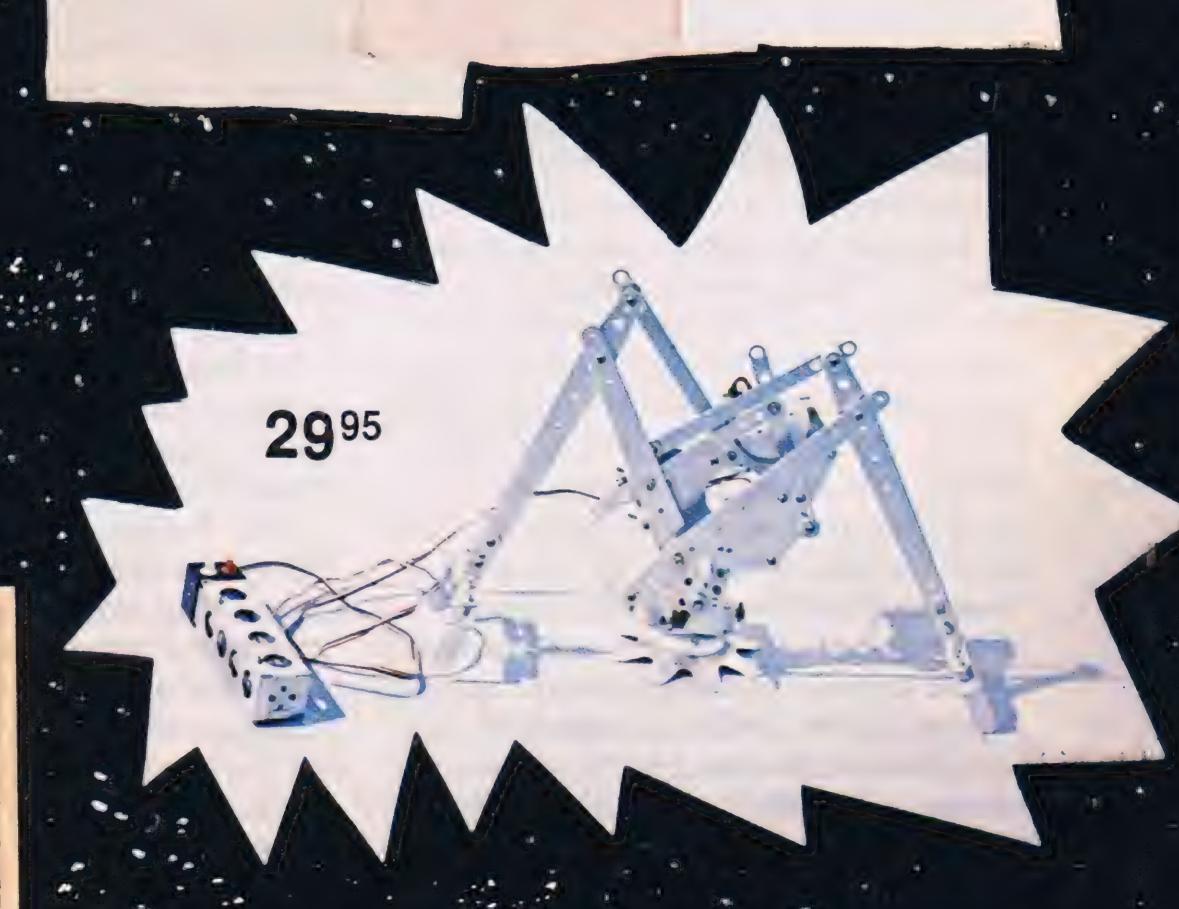
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Researched and written by West Coast Editor DAVID HOUSTON

SF Currents in the Mainstream Part II—The 20th Century

stream during the early 20th century, as the world changed.

The proletarian Utopia of Thomas More and Karl Marx arrived violently in the form of the Bolshevik Revolution, and suddenly it was far from clear what an ideal society would consist of; while political philosophers went back to the cloisters, novelists found it safer to choose a current social malady and extrapolate doom from it. The Industrial Revolution lost steam with the coming of political controls that stifled investment, and technology showed seamier potentials in World War I. It became far less entertaining to speculate on the future of science. The global economic collapse of 1929 stopped industrial growth dead, and, for a while, no individual or nation could afford material progress.

Related to this universal decline, literature turned from its life-loving, adventure-prone Romanticism to a failure-rooted helplessness often called Realism or Naturalism. Most "serious" literature abandoned constructive speculation for defeatism; abstract imagination was squashed like a butterfly beneath a slab of journalistic concrete. Where was science fiction to turn?

To dime novels and pulp magazines—so far from the mainstream that they weren't considered literature at all. Virtually in secret, burgeoning SF writers—the greats of today—expressed their guilty passions: inspiring images of better worlds, exciting and chilling voyages through time and space, heroism and accomplishment beyond comprehension and constructive projections of doomsdays to come unless we changed our ways. Such stories were far too imaginative and abstract for a mainstream dominated by the minutia of daily life—like James Joyce's Ulysses (1922), a stream-of-consciousness ramble through various conventional minds in Dublin during an ordinary 24-hour period; William Faulkner's Sartoris (1929), a study of hypocrisy and corruption in the decaying American South; and John Steinbeck's Grapes of Wrath (1939), about a poor farm family utterly without resources, driven out of Oklahoma by drought and inhuman treatment, a few of whom find a modicum of happiness in California when the government comes in like a deus ex machina and gives it to them.

By World War II, science fiction was securely pigeonholed in its genre, and its consumers and creators alike were scoffed at by those up in the decadent breezes of the mainstream.

Then came the atomic bomb. Then came the space program. Then came a peculiar mainstream acceptance of certain kinds of science fiction. If a book like George Orwell's 1984 (1949) sold well and garnered critical acclaim, it was allowed "in"—but, it was not called science fiction. It could be good or SF, not both.

During the past quarter of a century, the cultural climate has altered a bit. The Cold War and universal fears of annihilation have lessened; and an increased prosperity of sorts has led to technological advances (space travel, computers, organ transplants, atomic-electric power, communications satellites) reminiscent of the revolutionary strides taken in Jules Verne's day. Flying machines are no longer science fiction; neither are trips to the polar caps, nuclear submarines, television, walks on the Moon, or any of the myriad innovations SF writers have lately been credited with having foreseen. Now a book can be recognized as both science fiction and "good." And it seems likely that more and more genre science fiction will end up on best-seller lists, and more and more mainstream fiction will contain SF elements.

All along, though, there have been important books created by authors not normally associated with science fiction, who nevertheless used it.

E.M. Forster, author of the classic A Passage to India, wrote a science-fiction novella, The Machine Stops. It attacks the Utopian principle by likening its quality of life to that of insects. The setting is a farflung future in which every duty and creature comfort is overseen by a vast machine; people live enclosed in identical compartments, communing by two-way television, in an immense hive. The great machine stops and, there having been no progress, no one knows how to repair it or live without it. The story was written in 1909 and published, with symbolic irony, in a book of Forster stories in 1928—the year before our machine stopped.

Czech writer Karel Capek wrote a science-fiction play that was produced world-



wide, and which added a new word to the world's vocabulary: robot. The play was R.U.R. (for Rossum's Universal Robots), and the year was 1920. The story concerns machines so humanlike that they begin to develop emotions and compete with humans for positions of power.

Steven Vincent Benet, who wrote *The Devil and Daniel Webster* and won a Pulitzer Prize for *John Brown's Body*, wrote *By the Waters of Babylon* (1937), in which a priest's son makes a pilgrimage to a city purported to house the gods. He arrives at a dead New York and learns that the gods were only humans.

Popular English novelist and playwright J.B. Priestly gave us a variant on a fourth-dimensional realm in *The Other Place* (1953), and another distinguished Englishman, Graham Greene, author of *The Power and the Glory* and *The Third Man*, penned an atomic doomsday for *A Discovery in the Woods* (1963).

Death by atomic self-annihilation has appealed to many writers, including Peter

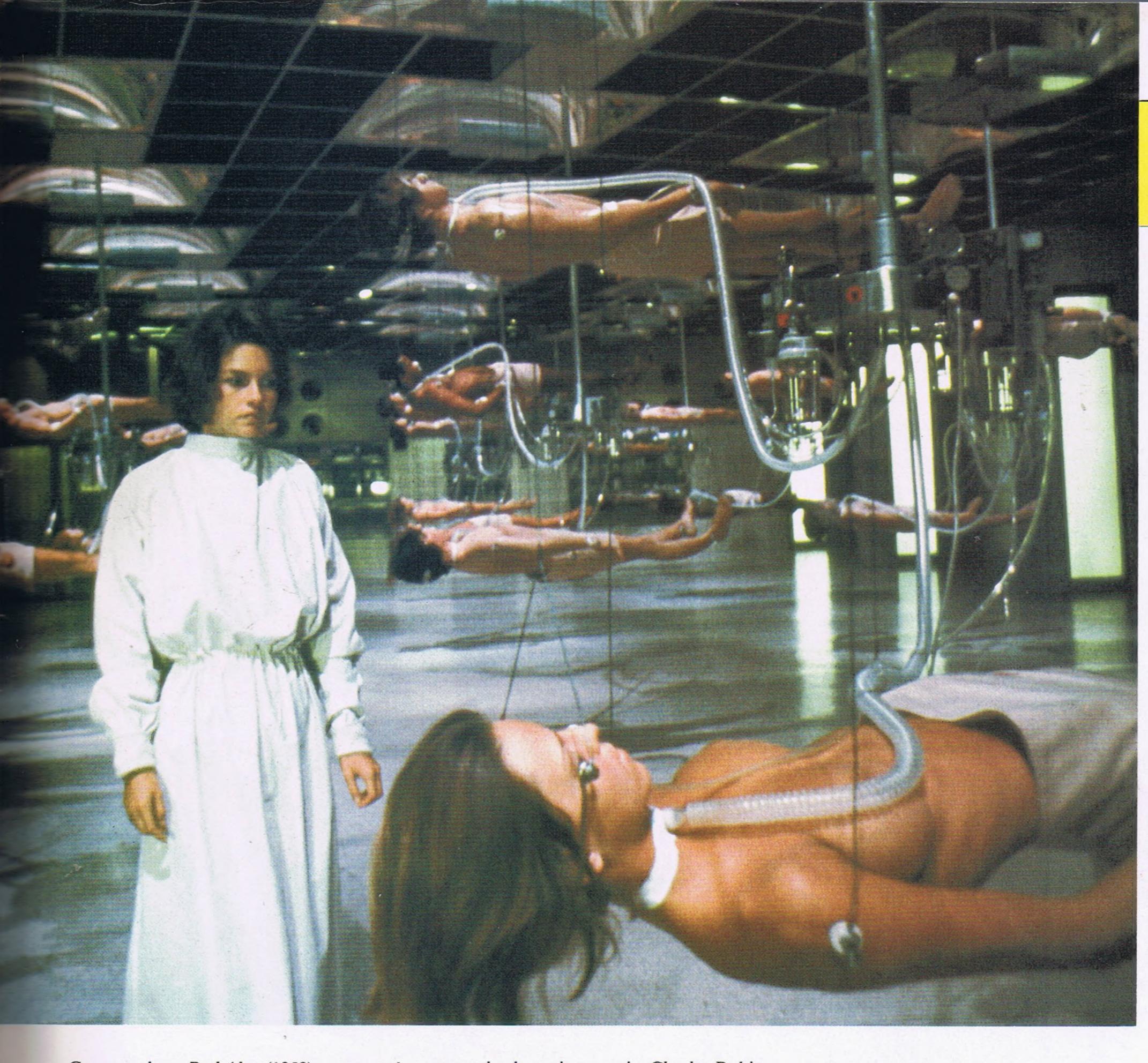


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George, whose *Red Alert* (1958) was turned into the film *Dr. Strangelove*; Eugene Burdick, who wrote the structurally similar *Failsafe* (1962); adventure novelist Nevil Shute, who had an international best-seller in *On the Beach* (1957); and William Golding, whose *Lord of the Flies* (1954) has been on college reading lists for years due to the success with which he demonstrates boy's inhumanity to boy.

Some do place Michael Crichton in the science-fiction genre, but at least as many more consider him a mainstream writer. Perhaps this indicates a vestige of the old notion that anything widely popular can be science fiction. But his *Andromeda Strain* (1969), about an extraterrestrial micro-organism and the scientists who learn to control it, and his *The Terminal Man* (1972), about brain implants to control a criminally insane epileptic, certainly belong both-feet-down alongside other medical science-fiction tales.

The same can be said for Flowers for Algernon (1959) by Daniel Keyes, which be-

came the haunting movie *Charly*; Robin Cook's book and movie *Coma* (1977); Martin Caidin's *Cyborg* (1972), on which the "bionic" TV shows were based; and *Altered States* (1978), the first novel by famed screenwriter Paddy Chayefsky, who wrote *Marty, The Americanization of Emily* and *Network*.

Allen Drury, who won a Pulitzer Prize for Advise and Consent, long flirted with science fiction. In Preserve and Protect, he bumps off a reporter with a laser rifle, and several of his books take place in the not-too-distant future. It wasn't until The Throne of Saturn (1970), however, that he dipped freely into SF's domain. The book is generally overlooked by SF readers because it isn't SF, and by mainstream readers because it is.

The Throne of Saturn is the fictionalized (but highly researched) story of NASA—with its political manipulations exposed and its ideals scrutinized. Yet the book reveals NASA's underlying innocence and nobility, which is the point of it all. The heroes

Faye Dunaway in a chilling scene from last year's medical science-fiction tale, *Coma*, adapted from Robin Cook's novel. Cook's SF story fits into the mainstream alongside such books as Michael Crichton's *Andromeda Strain*.

are the astronauts, scientists and administrators trying to get Planetary Fleet One off the ground and on its way to our first manned landing on Mars. The villains are politicians, saboteurs and terrorists who try to prevent lift-off. The conflicts are largely those of conscience, and the climax takes place among astronauts armed against deadly adversaries—on the surface of the Moon.

This series will be continued in STARLOG #21 with Brave New World and 1984, and concluded in STARLOG #22 with the science-fiction aspects of the novels of Ayn Rand.

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Our increase in production means four more issues each year. The added space will allow us to run episode guides, TV and film retrospectives, blueprints and other graphic stories more frequently. You'll also be getting the latest science fiction and science news two weeks sooner than before.

Now I'd like to say just a few more words about Battlestar Galactica. My last editorial on this space opera prompted many readers to write highly emotional letters in defense of the show. Although many were neatly typed and well written, the content of some was deeply disturbing. On the question of the lack of pressure suits for Viper pilots, several people replied with an answer that defies all logic: the pilots don't need them because when the Viper sustains a direct hit, it explodes! Now, really....On another point, readers informed me that it is not so improbable for the Galactica to find Earth-like planets every week, due to their preponderance throughout the galaxy. But stop and think a minute: 1. The proportion of Earth-like planets to alien planets in the Milky Way is exceedingly small. 2. They would need a faster-than-light drive to travel to a different star system each week and, even if the Battlestar were so equipped, the "ragtag fleet" that carries the survivors of the Cylon treachery is not. Of course, the fact that they keep running into planets inhabited by humans means that they are not the galaxy's sole remaining human population. But they are exposing these "forgotten" colonists to the Cylon force that is pursuing the Galactica to finish the job of exterminating humanity.

I'm not saying, "Don't watch the show." What I am saying is that just because something appears on the show doesn't mean that it is not to be questioned. Continue to watch, but be discriminating, be discerning, be aware.

Howard Jummerman

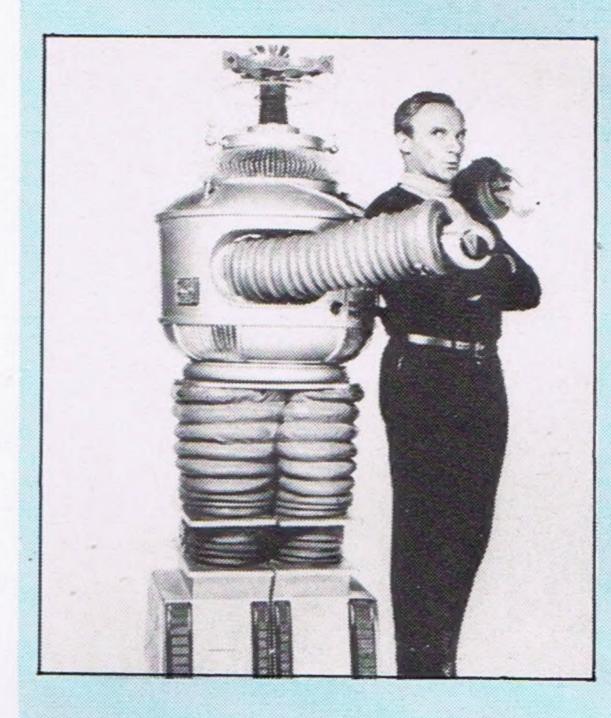
Howard Zimmerman/Editor

NEXT MONTH

MARK HAMILL INTERVIEW

n one of his first major interviews following the phenomenal worldwide success of *Star Wars*, Mark Hamill talks about what it was like making the film, his reactions to the reviews (both good and bad) and his personal feelings as to the overall quality of the film. Hamill also talks quite candidly about his future career in motion pictures in the wake of his Luke Skywalker role, the *Star Wars* sequel and his reactions to John Dykstra's decision to leave the production in favor of helming TV's *Galactica*.

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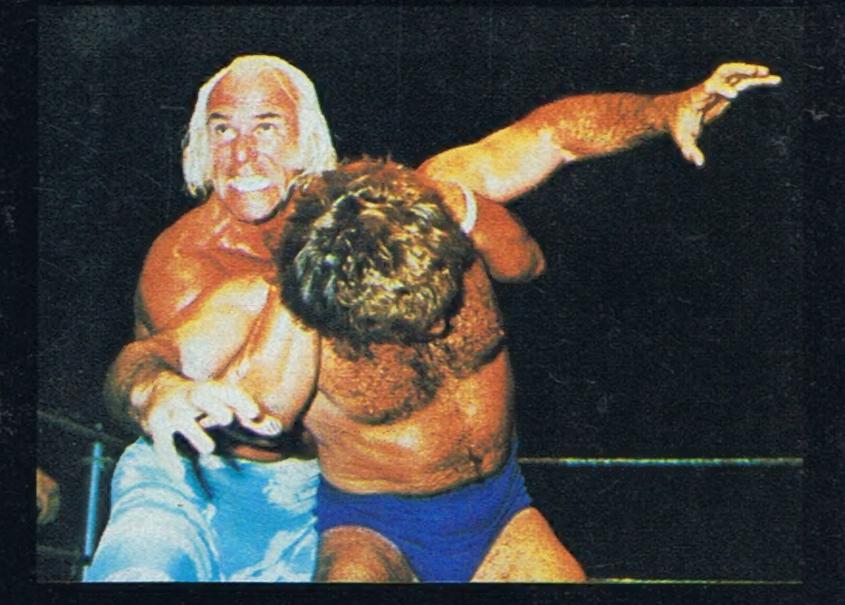
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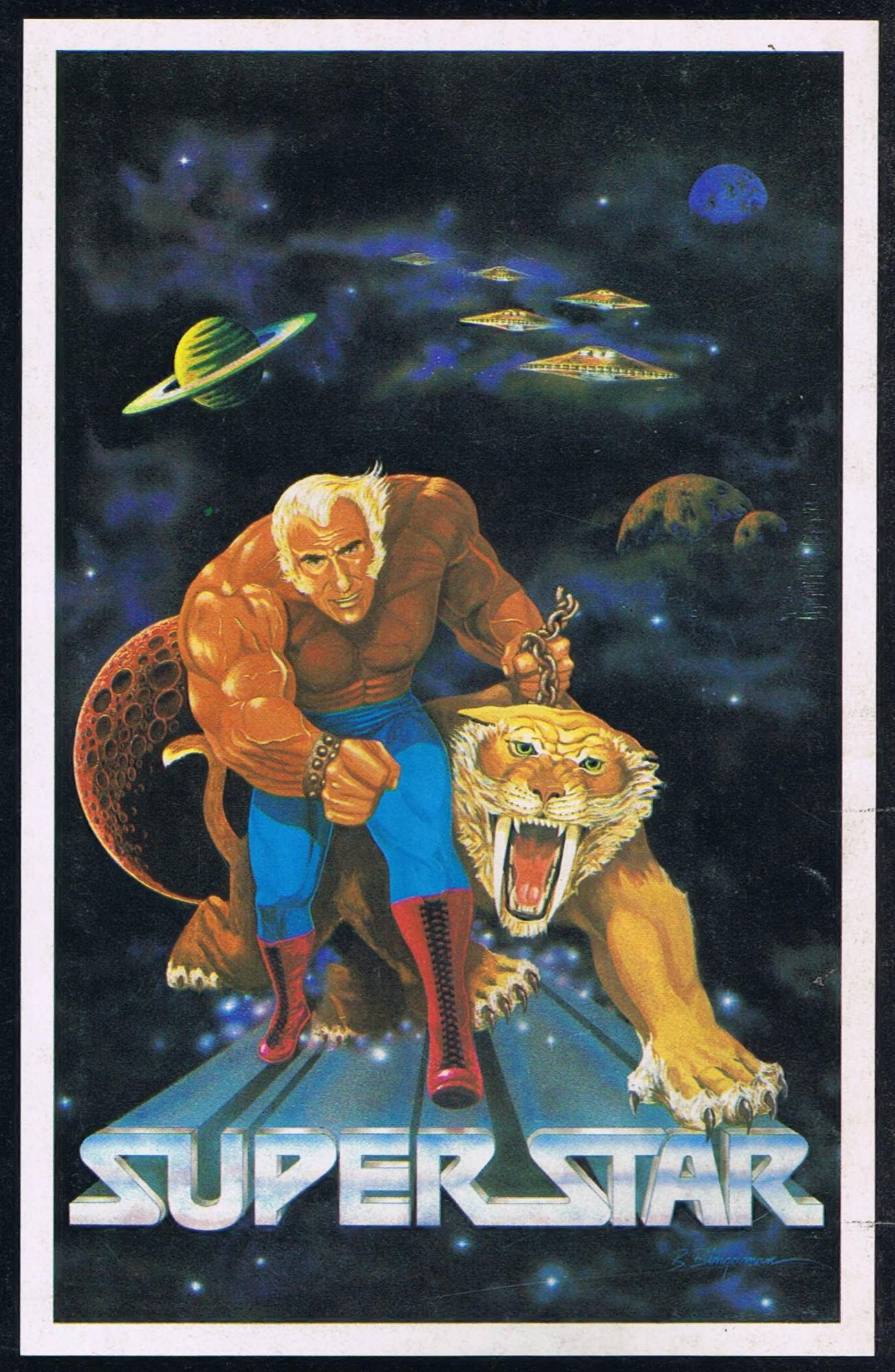
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